REPORT

OF THE

INACCESSIBLE AREA COMMITTEE



ISTRY OF FOOD AND AGRICULTURE
(DEPARTMENT OF AGRICULTURE)
GOVERNMENT OF INDIA

CHAPTER I

GENERAL REPORT

Appointment of the Committee

- 1.1 There are a number of areas in the country which are in accessible, and the Governments of India and the States concerned have either to undergo very heavy expenditure especially on transport, or encounter other practical administrative difficulties of a serious dimension in sending and maintaining regular supplies of foodgrains to such areas.
- 1.2 These areas are spread all over different parts of the country. Those taken up by the Committee were Ratnagiri District of Bombay, the Hill Districts of U.P. and Assam, Tripura, North East Frontier Agency, Kulu Valley of the Punjab and the Chini and Pangi areas of Himachal Pradesh. It was originally intended to include Leh area of Kashmir within the purview of the Committee but later it was excluded while the hill districts of Assam and N.E.F.A. were further included. In some cases supplies of foodgrains have to be air-lifted or dropped at exorbitant costs; at times amounting to Rs. 40 or so per maund, and the Government of India invariably supplies such foodgrains which are not available locally in sufficient quantity. With a view to examine the question of developing these areas to become self-sufficient in foodgrains within the Second Five Year Plan period, the Government of India decided to constitute a Committee to investigate the question of deficiency in foodgrain production of these areas and suggest ways and means of maximising their indigenous production.

Terms of Reference

- 1.3 The terms of reference of the Committee which was named 'The Inaccessible Areas Committee', were laid down in the Government of India, Ministry of Food & Agriculture, Department of Agriculture, letter No. 3-8/58 GMF(Coord.) dated the 24th September, 1958, (Annexure 'A') and are given below:—
 - (i) to study the question of deficiency in food production of these areas; and
 - (ii) to suggest ways and means of increasing food production to make them self-sufficient within the next two years of the Second Plan period.
- 1.4 The Committee were authorised to decide their own working procedure and to visit the areas concerned as far as feasible in order to enable them to examine the problems closely.
- 1.5 The Committee made it a point to reach such places within or adjacent to these areas where leaders of local opinion, and locally posted Government officials could be met without any inconvenience to them, for detailed discussions. For Lahaul and Spiti areas the

Committee were lucky enough to meet the Punjab Tribes Advisory Council and also attend the Council's meeting presided over by the State Chief Minister. Occasionally the Committee even visited the remotest and most problematical parts; necessitating arduous trekking, in order to equip themselves with a background authentic enough for a fair appreciation of the grave difficulties facing the local inhabitants.

Programme of Work

- 1.6 The Committee held their first meeting at Delhi on the 25th September, 1958 when the draft of the Committee's questionnaire was discussed and approved. The questionnaire (Appendix 'B') was issued to the State Governments concerned on the 27th September, 1958 with a request that their replies should be forwarded to the Committee by the 26th of October, 1958. They were also requested to appoint a Liaison Officer to act as coordinating authority at the Secretariat level for facilitating the supply of information and for providing any assistance required by the Committee from time to time. However, complete replies of most of the State Governments were not received till April, 1959.
- 1.7 In the meantime, however, the Committee commenced their tours, beginning with the Ratnagiri District of Bombay on 18th February, 1959. They completed their visits to various States by 25th June, 1959. During these visits the Committee had to cover a distance of 6,384 miles by air, 1,621 miles by rail 120 miles by sea, and 2,290 miles by road; some of it on foot.
- 1.8 In the course of these visits, the Committee met the officers of the State Governments and Administrations as well as a representative cross section of the inhabitants of the areas concerned. All the Members of the Committee could neither undertake all its tours nor attend all its meetings.

·Condolence

1.9 In the first week of July Shri S. Majid, Director of Agriculture, Assam, and Member of the Committee died of sudden heart failure. The Committee while placing on record his valuable assistance in their deliberations, take this opportunity of offering their heartfelt sympathies to the bereaved family.

The Problem

1.10 The inaccessible areas within the purview of the terms of reference of the Committee have a total area of 91,620 sq. miles with a population of 68,43,374. Almost all the areas in question with the exception of Assam, N.E.F.A. and Tripura mostly comprise of barren eroded hills with exceedingly low fertility of soils. According to the evidence offered by non-official agencies, most of these areas themselves claim to produce only two to four months of their annual requirements of foodgrains. According to the available official statistics, the area under cultivation in the various States, the present

output of foodgrains and estimated requirements for consumption are as follows:—

Sl. No.	Name of Sta	n Territo	ory	Area Sq. Miles	Popu- lation	Inaccessi- ble area under cultiva- tion	Present a output of c food-grains	Estimated innual re- juirements for con- sumption	
1		2			3	4	5	6	7
•	77'		(Ob:-:	•			(acres)	(tons)	
	Himachal P Pangi area)	radesn 	(Chini		3167	39,807	23,852	3,798	6,639
2.	Punjab (Kuli	u Valley)		6235	1,58,000	6,105	21,289	23,071
3.	Uttar Prades	h (Hill	districts)		19360	25,30,091	21,14,796	2,22,209	4,10,067
4.	Bombay (Rat	tnagiri d	listrict)		5021	18,83,160	16,61,000	1,97,800	2,82,300
5.	Assam (Hill)		23065	9,67,316	4,50,232	1,82,000	1,92,000	
6.	Tripura	••	••		4181	9,00,000	5,23,000	1,23,706	1,28,571
7.	N.E.F.A.		••	• •	30571	3,63,000	1,52,048	6,161	76,258
		Т	OTAL	.13	91620	68,43,374	49,33,033	7,56,963	11,18,906

1.11. The total production, therefore, falls short of requirements by 3,61,943 tons, which is at present being met through imports by Governmental and Private agencies. Keeping in view population increase, increased consumption per capita, and changes in food habits the net shortage by the end of the current plan period is estimated to be approximately 8 lakh tons.

General Observations

1.12 At the outset, the Committee have no hesitation in pointing out that till lately the inaccessible areas visited by them have all been subjected to prolonged and utter neglect both in day-to-day administration and in developmental programmes. Since the advent of National Planning, the State Governments have made some efforts to allot special attention towards the development of these areas. Within their existing plans, however, their efforts cannot be commensurate with the gravity of the problem, as an utter depletion of soil and other natural resources, have permitted unchecked deterioration for the past couple of centuries or so.

1.13 The Committee felt much concern for the staggering disparity which exists between the Country's better developed areas and those which lie remote and relatively untouched by progress.

1.14 The solution of problems of these areas, consequently, is definitely beyond the scope, and the resources of existing State Plans. Apart from Ratnagiri, all these areas touch our Northern and North-Eastern international border-lines with China and Pakistan. The problem posed by them, therefore, is a National one, and should be dealt with as such. Therefore, special development plans must be put into motion over and above the provisions of current plans of

both the Centre and the States. In their physically isolated and economically shattered condition it cannot be possible for these areas to fall even remotely into step with the progress of the rest of the country unless special attention is bestowed on them on a priority basis. In recent years the Central Government have made some efforts to accelerate developmental activities in Border areas. These, however, only touch the fringe of the problem. At present, for special development programmes only the extreme border line areas are taken up; thus creating a relatively underdeveloped belt between such 'Border Areas' and the better developed hilly regions neighbouring the plains. It is the inhabitants of these areas who are the worst off, and are still untouched by development programmes either as 'Border Areas' or as areas already reached by State level development plans, which extend towards them from the plains.

1.15 The Committee also came to the conclusion that it is impossible to give a common complexion to the problems of all these areas and cover the same in a single report. Having their individual deep-rooted problems, they do not present an all-India picture. For example in Ratnagiri the problem is posed by an almost complete denudation of soil, a mass migration of population to Metropolitan Bombay, and the area's main approach being restricted to that by sea in fair weather. In the Assam hills the problem is mainly to reverse pre-partition economic channels and to create fresh centres of facilities of marketing and processing; normal trade routes being sealed off all along the Pakistan border. In the hills of the Punjab, Uttar Pradesh and Himachal Pradesh, large scale erosion has caused utter devastation of soil, and cultivation on precipitous slopes coupled with deforestation is bringing about the cultivator's ruin. N.E.F.A. the local Tribal is yet not 'civilised' enough to beg for food. He is close enough to Nature to retain enviable health and, supplements his foodgrain supplies with jungle tubers and plants, rice and millet beer, hunting and fishing. In actual fact his diet is richer and scientifically better balanced than that of the average citizen elsewhere in India. Almost all airlifted supplies in this area are for the security and administrative personnel posted in far flung outposts. Our programmes for this area have to fall within the National policy pattern for such areas, according to which our tribal brethren have to be administered with due respect for their customs and traditions, and our plans have to be devoid of any suggestion of haste, over administration, or large scale influx of officers from other parts of the Country.

1.16 It was, therefore, decided that, to begin with, a brief general report should be presented, covering such aspects which were found common to all areas, and detailed reports pertaining to each area submitted subsequently. Such a course would facilitate State Governments to be actively associated with the furnishing of data and finalisation of the Committee's recommendations, which would make them specific and not general. It will further ensure prompt implementation of the final report, as accepted, because re-examination at State level may not be necessary. It is not possible for the Committee to forecast the extent to which such recommendations will either be accepted or considered financially feasible. It has, therefore, been decided to offer them in as much individual detail

as possible, indicating priorities and the approximate financial implications involved, so that the over all acceptance of such recommendations may be gauged.

1:17 The Committee would also like to point out that it sensed a feeling of surprise, and disappointment at the selection of the inaccessible areas listed for the Committee's investigation. It is claimed that some States have equally, if not worse, inaccessible areas than those covered by the Committee. Even in the States visited, there are certain other areas claimed to be inaccessible but not included in the terms of reference of the Committee.

Common Aspects

1.18 After a careful consideration of the problems of these areas, and local conditions, the Committee have come to the conclusion that any developmental programme in these areas will have to be a continued process of development spread over a planned period of time. The evil forces of soil erosion have been permitted to bring about utter destruction of soil; in some areas hardly four inches of soil is left for cultivation. Despite this utter depletion of soil and denudation of forests, the cultivator is still being permitted not only to continue cultivation, but deforestation also, thus bringing about his ruin with his own hands. Under such conditions any short-term programme aimed at making such areas self-sufficient in food will neither be advisable nor practicable.

1.19 The Committee's second term of reference, therefore, cannot in any way be made into a feasible proposition; attaining self-sufficiency in food within the current plan period is not practicable; any attempt to extend or intensify cultivation in an indiscriminate manner in these areas will, instead of helping to solve the problem, aggravate it.

1.20 Broadly speaking the problem can best be tackled with a four-pronged plan of development as under:—

- (i) Accelerating existing road development programme after re-orientating them where necessary to suit local needs and conditions.
- (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.
- (iii) Development of Horticulture and other Plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing power.
- (iv) Executing effective soil conservation measures in close coordination with Road, Agriculture and Horticultural development plans and implementation of Afforestation schemes on an extensive scale.

*Communications

1.21 The most obvious solution for problems of 'Inaccessible' areas is to make them 'Accessible'. Therefore an accelerated programme of development of transport and communications has to be

implemented. This programme must suit local conditions, and it is not always necessary that the inaccessibility of an area is reduced by motorable roads only.

1.22 The lot of any inaccessible area cannot be improved without adequate facilities of accessibility by sea, rail or road and internal communications by bullock-cart, mule tracks or foot paths. Such a programme is of the foremost importance not only for food supplies to reach these areas cheaply and in time, but also to bring local produce within the reach of marketing and processing centres. In the absence of such facilities, the cultivator is deprived of the encouragement of profits due to him for implementing special programmes and incurring heavy extra investment, especially in schemes pertaining to horticulture. For example, there have been occasions when the cultivator in Assam Hills has been forced to part with his pineapples for the ridiculous price of 25 naye paise per two hundred fruits, while in some interior areas of Ratnagiri District 'Alphenso' mangoes have been sold for Rupees five per hundred. Any programme for economic uplift of these areas has, therefore, to include a major transport development programme. At present even day-to-day administration of the State Governments, what to say of development schemes, is handicapped in the very first instance, due to their inability to transport essential materials or the necessary staff. The problem thus assumes the form of a vicious circle.

1.23 The working season in almost all such areas is extremely short. Some of them not only remain snow-bound for prolonged periods, but also remain cut off during the monsoons. This further aggravates the problem facing both general and road development programmes.

1.24 Unlike other inaccessible areas, the position of Tripura is entirely different. Tripura is surrounded by Pakistan territory from three sides while the access on the fourth side is not yet readily communicable. The only easy approach is by air, which too is disturbed very often due to badflying weather conditions, especially during monsoons. Fortunately, however, Tripura's climatic and soil conditions are quite promising and can be developed to make this territory eventually self-sufficient in foodgrains despite the doubling of the local population through a large scale influx of East Pakistan refugees. To an extent, these geographical conditions also hold good for N.E.F.A. and Assam.

1.25 It is, therefore, obvious that over and above existing plans special programmes will have to be implemented for development of communications in these areas. It may also be noted that for obvious reasons cost of road construction in such areas is abnormally heavy and therefore normal formulas of financial justification of road construction will need special exemption. The Committee will furnish specific recommendations with regard to each area separately.

1.26 A common observation with regard to existing plans has been that more importance is attached to the construction of 'motorable' and 'jeepable' roads. The former bring under-developed areas

permanently nearer to neighbouring better developed areas, and the latter facilitate better administrative touring. The importance of mule tracks and foot paths, however, should not be lost sight of. The proper alignment and maintenance of such tracks, in the opinion of the Committee, needs greater attention. Not only the approach roads to the main roads are necessary, but the existence of crosstracks joining various remote areas to such link roads is equally important. At present due regard to the old mule and foot tracks is not being paid. In several cases they have been left to fall into a State of disrepair and disuse, whereby the utility expected out of new alignments has been minimised.

- 1.27 The Committee noted further that new alignments of motor roads was not always in keeping with principles of soil conservation. We feel that new roads should be constructed only after proper survey by competent engineers with experience in construction of hill roads, who are fully alive to all the points mentioned above. In some cases the Committee noticed frequent changes in alignments having aggravated soil erosion. A high degree of coordination needs to be developed between the P.W.D. and Soil Conservation Departments.
- 1.28 Although administrative convenience is an important consideration for road location, it should not earn priority over economic considerations. Such a tendency was noticed in some cases. Since in hill areas economic channels always flow towards the plains, more roads should be built linking the interior of the hills to the plains, than linking one point in the interior to another equally remote one.
- 1.29 Howsoever impressed by the idea, the Committee is not in a position to firmly recommend the construction of ropeways in extremely inaccessible tracts because of the technical nature of the subject. It is, however, their firm opinion that this subject has not received the importance due to it and the technical departments concerned have neither had the time to study the feasibility of ropeways in such areas, nor made enough attempts to learn from the better experience of other countries.

Development Programmes'

- 1.30 To maximise local production, intensive foodgrains cultivation programmes with the best scientific methods deserve to be planned only for areas which are in valleys or on plateaux where soil erosion can be kept at bay. Such areas will provide the main foodgrain potential of their zone and agricultural programmes should remain restricted to them.
- 1.31 In areas where cultivation is aggravating, or is likely to deepen soil erosion, the cultivator should be persuaded to switch over to horticulture and cover crops. Mangoes and citrus in the foot hills, stone fruit in the lower hills, apples in the higher hills and dry fruit in mountainous ranges can be the general pattern. During the time lag when the area under food crops is being diverted to horticulture and other cover crops, it will be necessary to compensate the farmer for the loss of foodgrains produced from that area.

This may take the form of grant for every acre diverted from food-grain to non-foodgrains crops. The amount of the grant may be determined by the State Govt., depending upon the crop replaced. The duration of this concession will depend upon the crop that is recommended for the area. In addition, the cultivator should be given an adequate loan, preferably interest-free to act as an incentive. In areas where rainfall and weather conditions are suitable extensive plantation of cashew, pepper and other plantation crops also holds great promise. These cash crops will, if pre-planned marketing and processing programmes are also implemented, result in eventually increasing the purchasing power of the local population to procure foodgrains from neighbouring areas. Improved communications will facilitate such movements, but to begin with supplies will continue to need Govt. subsidization though not to the extent prevalent today.

1.32 Lastly special programmes of development of cottage industries like sericulture and apiculture, PWD labour cooperatives, and Forest Labour co-operatives can also provide appreciable economic relief. At the same time all these regions claim rich mineral and herbal wealth. An early opportunity should be taken to organise scientific surveys in order to verify if these resources can be developed. It could also be possible 'unskilled' earthen work of local road construction programmes to be made to synchronise with the 'off season' of the cultivator. Villagers could then be requested to contribute 'Shramdan' and payments falling due according to PWD rates be made to panchayats in lumpsums for the benefit of village development. This scheme is not as farfetched as it seems. It was tried out with great success in the erstwhile State of Pepsu.

1.33 Apart from these programmes every area seems to have one or two promising resources for special development. For example in Lahaul area increased cultivation of 'Kuth' (SAUSSUREA LAPPA) can bring about rapid economic betterment of the people, due to its value as a foreign exchange earner. In Ratnagiri, extensive mango and cashewnut development programmes are possible. In Punjab, Himachal and U.P. hills development of horticulture, dry fruits and potatoes has great potentialities. In Assam hills, NEFA and Tripura pepper, cashew and other plantation crops are a potential wealth hitherto untapped. In Himachal Pradesh and some other hill areas pasture development combined with livestock industry would be the best use for land resources suitable for this purpose. It is, therefore, essential to appreciate that the idea that all such areas in the country should rapidly become self-sufficient in foodgrains is not a correct approach, as increased cultivation of foodgrains crops will not only result in further depletion of soil but also worsen the economic backwardness of the inhabitants.

Administration

1.34 The Committee finds that the practice of posting service personnel of low calibre to such areas is still persisting. Often enough official postings to such remote areas are deemed to be a form of punishment. Upon receiving posting orders, a common practice is to utilise all accumulated leave, and in the meantime, make every effort to have the posting orders cancelled. If such attempts

are not successful, the official eventually takes up his duties as a last resort, and carries out their performance in a despirited and disinterested way.

- 1.35 It has been the Committee's privilege to see exceptions to this rule. As an example we found the newly formed Indian Frontier Administrative Service shouldering its responsibilities in NEFA with commendable credit. Fine types of educated youngmen are showing patriotism and devotion to duty of a high order in winning over the confidence of their Tribal brethren and making rapid progress, not only, in the day-to-day administration, but also developmental work.
- 1.36 There is a general tendency to apply to inaccessible areas the same staff pattern as is in vogue in better developed areas. This practice was found to be a very faulty one, as it results in certain types of staff left with nothing at all to do and others with too much to do. The staff pattern for these areas has to be reorientated to suit local conditions. Officers and service personnel intended for these areas must be specially selected from among willing people with the right aptitude for work in arduous conditions. In these remote places even basic comforts of life are limited, and the availability of essential consumer goods, if at all, is poor. Even the very necessities of life are denied for certain periods when supplies run short due to rain or snow. As an incentive, higher rates of pay and adequate allowances to cover additional expenditure and compensatory allowance for one's family should invariably be granted. An added incentive would be that service in these areas may earn extra credit for promotion.
- 1.37 The Committee offers the following recommendations in this respect:—
- (1) Credit for service in problem areas may be given to the officers concerned, by way of:
 - (i) suitable entry in their confidential records;
 - (ii) consideration for out of turn promotion;
 - (iii) grant of higher scales of pay and suitable allowances in keeping with the requirements of the area, keeping in view maintenance of double establishment, absence of educational facilities for children, etc.;
 - (iv) incentive for maximum effort in the form of recognition of outstanding services by means of special increments.
- (2) The Cadre of I.F.A.S. may be expanded so as to permit postings of I.F.A.S. Collectors in all such areas on deputation.
- 1.38 The Committee had an opportunity of studying the pattern of staff laid down for execution of development projects at various levels. The Committee is firmly of the opinion that the present tendency of imposing a uniform pattern of development or staff all over the country is not advisable. It is strongly recommended that a more realistic basis may be applied for arriving at the number of posts required to meet a particular area's requirements and its pattern of development programmes. The standard limits of population, area, and strength of staff will have to be relaxed in favour of L2F&A-2

such remote and farflung areas. For example, in Pangi an N.E.S. Block has been opened to cover an area of 892-7 sq. miles and 224 hamlets with a paupered population of ten thousand souls. Considerable area remains snow-bound for prolonged periods and communications hardly exist. The effectiveness of the standard staff and development pattern of an N.E.S. Block in such an area can be best left to one's imagination. It would be impossible for the 10 V.L.Ws. even to reach all the hamlets much less to carry out an extension programme. In the N.E.S. blocks situated in these areas special problems of each block should be studied and a separate officer appointed to develop such schemes. For example, in a block where horticulture is the important item, a horticulture officer should be attached to the block in addition to the usual agriculture officer. Similarly in blocks where livestock development has more potentialities a livestock officer should be provided.

Agriculture, Research and Demonstration

1.39 For effective adoption of agricultural research programmes, considerable difficulty is being experienced. The result of research conducted in 'billiard table' conditions cannot, apply to areas with problematical climatic and soil conditions. Obviously, the solution lies in locating special research stations locally, where research could be carried out on suitable commodities under conditions, as adverse, and similar to those where the results of such research are to be taken advantage of.

At times particular areas were found in dire necessity for special research in a particular commodity suited only to that area. For example in Lahaul 'kuth' is still cultivated without the assistance of any scientific research. It is recommended that State Govts. and institutions like the I.C.A.R. should implement such special programmes in future.

1.40 As far as demonstration farms are concerned a similar tendency has been observed. It has been found that little attempt is being made to establish demonstration farms under problematical conditions. It is admitted that results in such farms will not be spectacular, but, however modest the success may be, it will be a definite source of encouragement to the people of the area. On the other hand spectacular success under favourable conditions is beyond the scope of the average cultivator's resources and field conditions.

1.41 Very little importance is at present attached to the appointment of good managerial staff. An ill-managed Governmental farm or demonstration plot does more harm than good. Such units should be adequately staffed with experienced and suitably trained hands preferably those having worked in similar agro-climatic conditions. The Committee frequently came across managers and demonstrators who had no previous experience whatsoever of the special problems and conditions of the areas they were posted to from farflung corners of the State with entirely different conditions. Before such postings, an attempt should be made to refresh them in their knowledge, by introducing refresher courses thereby imparting to them up-to-date knowledge of methods best suited to local conditions.

Minor Irrigation

- 1.42 It was found that local inhabitants are endowed with considerable ingenuity in tapping resources of small scale irrigation channels from hill-streams. In recent years they have received appreciable help from departmental schemes in the way of grants and loans but in the Committee's opinion enough emphasis has not been laid upon the provision of technical and scientific assistance in alignment, execution, utilisation and maintenance. Several promising channels have fallen into disrepair as loans and funds initially granted for their construction do not have any provision for subsequent maintenance. Invariably, such channels have courses over terrain which is annually subjected to the ravages of the monsoon and, therefore, maintenance of small scale irrigation programme, and Government's responsibility should not cease with the grant of loans for initial construction.
- 1.43 In areas which are situated at not too higher an altitude than the stream bed, there is a universal demand for pumping sets to be installed to lift water to points situated at places suitable for gravitational distribution. Such requests have mostly met with rejection at the hands of the technical departments on the ground of being uneconomic. The Committee feel that in many cases the technical departments have shown too much of a conservative approach to such schemes. In our opinion it is not necessary to have regular dams of a costly nature to be constructed in such cases. Temporary boulder dams similar to those utilised for water mills could effectively store sufficient water during the non-monsoon period to enable a small pump to deliver enough discharge for irrigational purposes provided the height to which the water is lifted is not too ambitious. The Committee may not be justified in criticising technical opinion but are definitely competent to recommend that one or two pilot projects on these lines should be constructed in each area found suitable for such experimentation and the economics worked out. Even if the economics turn out to be unfavourable, Government will be in a more justified position than it is today to turn down a widespread demand in hilly areas.
- 1.44 The Committee also feel that even very small streamlets and springs which feed the main valley rivulets could be effectively check dammed at suitable places and on a small scale a coordinated programme of irrigation, soil conservation, and water supply could be implemented. The Committee have visited mountainous hamlets where supply of drinking water entails a trek of four or five miles.
- 1.45 While in a few cases small projects were seen in which hill-streams have been harnessed to generate power, no effort to utilise wind power came to the Committee's notice. Hill regions, especially valleys, are invariably blessed with continuous air currents, and therefore the possibility of utilising wind mills to generate power for small scale irrigation, drinking water, cottage industries and rural lighting, should be examined at technical level.

Other Programmes

1.46 It has already been pointed out that side by side improved transport facilities to ensure a free and cheap movement of foodgrains and other commodities, the purchasing power of the local

population should also be increased by horticultural, plantation crop, cottage industries, and cooperative programmes.

1.47 Horticultural and plantation programmes have already been discussed. As regards cottage industries, good prospects appear to exist for fisheries, sericulture, apiculture, fruit preservation, joineries, and the manufacture of resin and terpentine. Detailed schemes in respect of these will be recommended in the State-wise reports.

1.48 An important item of general policy in such programmes will be to make special training facilities available locally, so that in as little time as possible the entire labour and staff employed for the development programmes of cottage industries may comprise of local inhabitants.

Cooperatives

1.49 Surprisingly enough, an overwhelming majority of labour employed in the road construction and forest programmes of these areas is imported. In the face of the poverty stricken economic conditions prevailing locally and the attractive labour rates offered, the Committee have failed to discover any one reason strong enough to explain this practice. For example during the Committee's tour, the road constructing labour in Ratnagiri had been imported from Andhra and on the Hindustan-Tibet road in Himachal, many of the road gangs were from Kargil in Kashmir. Different reasons like, inherent dislike for manual labour, were expressed in different areas. In the Committee's opinion the P.W.D. and Forest Departments in the concerned States should make efforts to unearth the root cause in this respect, and to take effective steps to ensure that as much local labour is absorbed by them as possible. The formation of labour cooperatives should be encouraged in order to maximise the profit of labour members.

1.50 Reservation of small forest contracts for local cooperative societies may be taken up as an experimental and phased programme. If successful, it can be developed to provide adequate economic relief to such sections of the local population who through prolonged employment with established contractors have gained sufficient experience in forest work, but cannot raise enough capital of their own to function independently as small contractors.

Soil Conservation.

1.51 Another very serious problem in the way of the development of these areas is chronic soil erosion. Apart from normal water erosion, the cultivator himself is assisting the evil forces of nature to bring about his own ruination. He continues to cultivate on precipitous terraces where he ploughs up extra soil every year for the rain to carry into the rivers below. A stage has now been reached where further cultivation in such areas is nothing short of fatal. For example, in Ratnagiri in many places not more than four inches separate the rock below from the cultivated surface. The quality of crops in such areas and the capacity of the soil to react to improved methods can best be imagined. In some areas in the interior hills of U.P., Himachal and Punjab, soil has been denuded to an extent where the farmer cannot look forward to anything more than the recovery of his seed. No scientific method can

come to his aid where conditions have deteriorated to such limits, apart from dissuading him from cultivation of foodgrains in such fatal conditions. An extensive bench terracing programme will be proposed in the state-wise reports only for areas where such a programme is feasible, but the over-all policy should be to systematically discourage cultivation in such areas and to persuade the farmer to switch over to horticulture and plantation crops wherever possible. It will also be possible in certain areas to develop live-stock industry either for wool or for milk and milk products, for which the growing of grasses and legumes and the establishment of rich pasture are essential. Such measures increase the income of the farmer and not only prevent the soil from further deterioration but in due course build up its fertility.

1.52 Not only has the cultivator been permitted to cultivate in such denuded areas but often he is still being permitted by defective forest laws to deforest and reclaim further soil. Suitable legislation will be essential in the immediate future to ban all further deforestation in such a form. Afforestation programmes therefore deserve a vigorous expansion and state-wise recommendations to this effect will be made in subsequent reports. The seriousness of the problem can be gauged by the fact that hill-men in Tehri and Pauri Garhwal Districts of U.P., whose love for their own homes, however humble it may be, is traditional, now express a universal and widespread demand for being permanently rehabilitated in the Bhabhar areas of the plains. Despite lack of education even they have realised that in their existing depleted fields, cultivation is a hopeless venture.

1.53 The Committee, therefore, recommend that State Soil Conservation and Land Utilisation Boards, wherever constituted, should frame and implement special schemes, both long and short term, to check the menace of erosion in these areas. Such Boards should be constituted wherever they do not exist at present. The State Govts. may allot high priority to the Board's advice and without hesitation implement any suitable legislation, however drastic it may be, to adopt the Board's recommendations for soil conservation programmes. The Central Soil Conservation Board should take up special studies in these areas and help to develop suitable pilot schemes keeping in view their special requirements.

1.54 In inaccessible areas located in the extreme North-Eastern region of the country, despite the presence of lush forests, soil conservation problems are mostly posed by 'Jhum' or shifting cultivation.

1.55 It would be opportune to quote Mr. M. D. Chaturvedi, Ex-Inspector General of Forests to the Govt. of India, who on the subject of Jhum cultivation says:—

"The correct approach to the problem of shifting cultivation lies in accepting it not as a necessary evil, but recognising it as a way of life; not condemning it as an evil practice, but regarding it as an agricultural practice, evolved as a reflex to the physiographical character of the land. For too long, jhuming has been condemned out of hand as a course to be ashamed of, a vandalism to be decried. This attitude engenders an inferiority complex and an unhealthy atmosphere for the launching of any development scheme seeking to improve the current practice."

Despite a certain amount of investigation and research into this problem little has been done in the way of scientific application of Jhum cultivation in a planned way. The Committee recommend that whatever material exists in the way of scientific research in Jhum cultivation should be converted into definite plans for implementation in areas where Jhum cultivation is practised.

Afforestation

- 1.56 Just as soil conservation measures in these areas will justify special schemes, staff and patterns of financial aids, over and above programmes earmarked for other areas, similarly special afforestation programmes will also have to be planned and implemented.
- 1.57 The Committee observed that although some success had been achieved by the State Forest Departments in afforestation schemes in Govt. forest areas, the progress of work in village or panchayat forests was exceedingly poor. In some cases panchayats after taking the possession of village forests had fallen to the lure of felling them overnight at attractive prices offered by traders. In some areas of Himachal, even mango trees are being put to the axe due to rising prices of packing-case material.
- 1.58 The advantages of afforestation in Govt. areas are, therefore, minimised by ill-advised fellings in village forest areas and effective legislation is over-due to check this practice.
- 1.59 In Statewise reports, the Committee will recommend afforestation schemes including subsidised closures. For such schemes difficulty in the availability of barbed wire for fencing is a handicap common all over the country. Alternative methods of fencing, such as boulder walls, has been resorted to successfully in some areas.
- 1.60 The Committee is, however, of the opinion that with successful demonstration coupled with a tactful approach, Forest Departments can persuade panchayats to adopt voluntary closures with technical and financial assistance from Government.
- 1.61 In a few cases the Committee observed some very successful experiments on these lines. The promise that the forests developing in such closures will eventually become the property of the panchayats, and provide sustained income, should be fully exploited by Government.

ANNEXURE 'A'

No. 3-8/58-GMF (Coord.) Government of India Ministry of Food & Agriculture (Department of Agriculture)

New Delhi, the 24th September, 1958.

the 2nd Asvina, 1880.

From

Shri K. R. Damle, I.C.S., Secretary to the Government of India.

- 1. The Chief Secretary to the Govt. of Punjab, Chandigarh.
 - 2. The Chief Secretary to the Government of Bombay, Bombay.
 - 3. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
 - 4. The Chief Secretary to the Government of Assam, Shillong.
- 5. The Chief Secretary, Himachal Pradesh Administration, Simla.
- 6. The Chief Secretary, Tripura Administration, Agartala.
- 7. The Chief Secretary, N.E.F.A. Administration, Shillong.

Subject-Agricultural Development of Inaccessible Areas-Setting up of a Committee. श्रद्धा भव भवन

Sir,

I am directed to say that there are a number of areas which are inaccessible and the Government of India have either to undergo heavy cost of transport or encounter other difficulties in sending foodgrains to those areas. These are spread over different parts of the country. They are mainly the Chini and Pungi areas of Himachal Pradesh, Kulu Valley of Punjab, hilly districts of Uttar Pradesh, Ratnagiri District of Bombey, hilly areas of Assam and the territories of Tripura and N.E.F.A. At times foodgrains have to be air-lifted to some of these areas and at times Government of India have to supply foodgrains which are not grown in these areas nor is there any likelihood of growing them in future for climatic reasons. With a view to examine the question of developing these areas to become self-sufficient in foodgrains within the next two years, the Government of India have decided to constitute a Committee (to be named as Inaccessible Area Committee) under the

Chairmanship of Raja Surendra Singh of Nalagarh. The composition of the Committee is as follows:—

- Raja Surendra Singh, Agricultural Production Adviser, Ministry of Food & Agriculture.
- (2) Dr. B. N. Uppal, Member Agricultural Commissioner, I.C.A.R. (or his nominee)

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- (3) Shri J. V. A. Nehemiah, Extension Commissioner, Ministry of Food & Agriculture.
- (4) Shri H. K. Tandon, I.A.S., Deputy Secretary, Ministry of Home Affairs.
- (5) Dr. T. S. Gill, Assistant Chief, Planning Commission.
- (6) Deputy Director of Agriculture, Gurdaspur, Punjab State.
- (7) Director of Agriculture or Joint Director of Agriculture, Bombay State.
- (8) Dr. B. K. Mukherjee, Director of Agriculture, Uttar Pradesh.
- (9) Shri L. K. Handique, Director of Agriculture, Assam State. (He will also represent N.E.F.A. Territory).
- (10) Shri Thakur Sen Negi,
 Deputy Development Commissioner,
 Himachal Pradesh.
- (11) Shri R. D. Naithine,
 Director of Agriculture, Tripura.
- (12) Shri D. Ramiah, ... Member-Under Secretary, Ministry of Secretary. Food & Agriculture.
- 2. The Committee will co-opt as additional members, the following Members of Parliament representing the areas which the Committee visit in connection with their work:—

Punjab.

Shri Hem Raj (Kangra).

Bombay.

Shri Premji R. Assar (Ratnagiri).

Uttar Pradesh.

Shri Mahavir Tyagi (Dehradun)

Assam and N.E.F.A.
Rani Manjula Devi (Goalpara)
Himachal Pradesh.
Shri Padam Dev (Pungi).
Tripura.
Shri Dasaratha Deb.

- 3. The terms of reference of the Committee will be:-
 - (i) to study the question of deficiency in food production of these areas; and
 - (ii) to suggest ways and means of increasing food production to make them self-sufficient within the next two years of the Second Plan period.
- 4. The Committee will decide its own working procedure and will visit the areas concerned as far as feasible and examine the problems in detail. It is expected to submit its report before the end of the current financial year.
- 5. It is requested that the Committee may kindly be given all the facilities necessary for discharging the duties entrusted to it. The Committee will correspond directly with the State Governments and Central Ministries/Departments for obtaining information/documents and for arranging its tour programmes. All the correspondence meant for the Committee should be sent to the Member-Secretary of the Committee (Shri D. Ramiah, Room No. 334, Third Floor, KRISHI BHAVAN, Queen Victoria Road, New Delhi).

सराधेव भगने

Yours faithfully, Sd/- K. C. Chetty for Secretary.

No. 3-8/58-GMF (Co-ord.)
Government of India
Ministry of Food & Agriculture
(Department of Agriculture)

New Delhi, the 7th October, 1958.

the 15th Asvina, 1880.

From

Shri K. C. Chetty, B.Sc. (Edin.), Deputy Secretary to the Government of India.

To

- 1. The Chief Secretary to the Government of Punjab, Chandigarh.
- 2. The Chief Secretary to the Government of Bombay, Bombay.
- 3. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
- 4. The Chief Secretary to the Government of Assam, Shillong.
- 5. The Chief Secretary, Himachal Pradesh Administration, Simla.
- 6. The Chief Secretary, Tripura Administration, Agartala.
- 7. The Chief Secretary, N.E.F.A. Administration, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Setting up of a Committee.

Sir,

In continuation of this Ministry's letter of even number dated the 24th September 1958 on the subject mentioned above I am directed to say that in the list of Members of the Inaccessible Area Committee, the following name may be added:—

Shri S. C. Ray,
Director of Agriculture and Community Development,
North-East Frontier Agency.

He is appointed a Member of the Committee to represent N.E.F.A.

2. I am also to say that the correct name of the Member of the Committee representing Tripura is "Shri H. D. Naithani" (Director of Agriculture, Tripura), and not "Shri R. D. Naithine."

Yours faithfully, (K. C. Chetty) Deputy Secretary

No. 3-8/58-GMF(Co-ord.) Government of India Ministry of Food & Agriculture (Department of Agriculture)

New Delhi, the 28th November, 1958.

the 7th Agrahayana, 1880.

From

Shri V. Balasubramanian, Under Secretary to the Government of India.

To

- 1. The Chief Secretary to the Government of Punjab, Chandigarh.
- 2. The Chief Secretary to the Government of Bombay, Bombay.
- 3. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
- 4. The Chief Secretary to the Government of Assam, Shillong.
- 5. The Chief Secretary, Himachal Pradesh Administration, Simla.
- 6. The Chief Secretary, Tripura Administration, Agartala.
- 7. The Chief Secretary, N.E.F.A. Administration, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Reference this Ministry's letter of even number dated the 24th September, 1958. The following amendments may please be noted with regard to the Members of the Committee.

Punjab

The Director of Agriculture, Punjab State, in place of Deputy Director of Agriculture, Gurdaspur, Punjab State.

Assam

The Director of Agriculture, Assam, State, (by designation) instead of "Shri L. K. Handique, Director of Agriculture, Assam State."

Central Government

Shri K. R. Prabhu, Deputy Secretary, Ministry of Home Affairs, in place of Shri H. K. Tandon.

2. It was stated in this Ministry's aforesaid letter of 24th September, 1958, that the Committee is expected to submit its report before the end of the current financial year. However, in view of the winter conditions prevailing at present in most of the hilly areas and the inability of the Committee to visit those areas, the Committee now expects to submit its report by the end of June 1959.

(V. Balasubramanian)
Under Secretary to the Government of India

EXPRESS LETTER

No. 3-8/58-GMF (Co-ord.)
Government of India
Ministry of Food & Agriculture
(Department of Agriculture)

New Delhi, the 10th December, 1958.

the 19th Agrahayana, 1880.

From

Shri V. Balasubramanian, Under Secretary to the Government of India.

To

- 1. The Chief Secretary to the Government of Punjab, Chandigarh.
- 2. The Chief Secretary to the Government of Bombay, Bombay.
- 3. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
- 4. The Chief Secretary to the Government of Assam, Shillong.
- The Chief Secretary, Himachal Pradesh Administration, Simla.
- The Chief Secretary, Tripura Administration, Agartala.
- 7. The Chief Secretary, N.E.F.A. Administration, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Reference this Ministry's letter of even number dated the 24th September, 1958. The following amendment may please be noted with regard to the Member of the Committee representing Himachal Pradesh.

The Director of Agriculture, Himachal Pradesh (Dr. L. S. Negi) in place of Shri Thakur Sen Negi, Deputy Development Commissioner, Himachal Pradesh.

(V. Balasubramanian) Under Secretary.

No. 3-8/58-GMF (Co-ord.)
Government of India
Ministry of Food & Agriculture
(Department of Agriculture)

New Delhi, the 30th April, 1959.

the 10th Vaisakha, 1881.

From.

Shri V. Balasubramanian, Under Secretary to the Government of India.

To

- 1. The Chief Secretary to the Government of Punjab, Chandigarh.
- 2. The Chief Secretary to the Government of Bombay, Bombay.
- 3. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
- 4. The Chief Secretary to the Government of Assam, Shillong.
- 5. The Chief Secretary, Himachal Pradesh Administration, Simla.
- 6. The Chief Secretary, Tripura Administration, Agartala.
 - 7. The Adviser to the Governor of Assam, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Reference this Ministry letter No. 3-8/58 GMF (Co-ord.) dated, the 24th September, 1958 and also para 1 of letter of even number dated 7th October, 1958. The following amendment may please be noted with regard to the Member of the Committee representing N.E.F.A.

Shri R. S. Nag, I.F.A.S., Development Commissioner, N.E.F.A., is nominated as Member of the Inaccessible Area Committee in place of Shri S. C. Ray.

(V. Balasubramanian)
Under Secretary

No. 3-8/58-GMF (Co-ord.) Government of India Ministry of Food & Agriculture (Department of Agriculture)

New Delhi, the 15th July, 1959.

the 20th Asadha, 1881.

From

Shri V. Balasubramanian, Under Secretary to the Government of India.

To

- 1. The Chief Secretary to the Government of Punjab, Chandigarh.
- 2. The Chief Secretary to the Government of Bombay, Bombay.
- 3. The Chief Secretary to the Government of Uttar Pradesh, Lucknow.
- 4. The Chief Secretary to the Government of Assam, Shillong.
- The Chief Secretary, Himachal Pradesh Administration, Simla.
- 6. The Chief Secretary,
 Tripura Administration, Agartala.
- 7. The Adviser to the Governor of Assam, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Sir.

I am directed to invite your attention to para 2 of this Ministry's express letter of even number dated 28th November 1958, wherein it was stated that the Committee was expected to submit its report by the end of June 1959, and to say that due to unavoidable circumstances the Committee could not so far complete its visit to all the concerned States/Union Territories. It is, therefore, expected that the Committee will be in a position to submit its report only by the end of October, 1959.

Yours faithfully,

(V. Balasubramanian)
Under Secretary

ANNEXURE B'

INACCESSIBLE AREAS COMMITTEE MINISTRY OF FOOD & AGRICULTURE (DEPARTMENT OF AGRICULTURE) GOVERNMENT OF INDIA NEW DELHI-2.

QUESTIONNAIRE

27th September, 1958.

NOTE

सरमधेन भगन

Replies may kindly be sent by 26th October, 1958 latest to Shri D. Ramiah, Member-Secretary of the Committee, Ministry of Food & Agriculture, Queen Victoria Road, New Delhi-2.

Telegrams:

CARE AGRINDIA

Telephone:

Office — 46404

Residence — 49306

QUESTIONNAIRE

Note: Replies to the Questionnaire are required only in respect of the areas of each State as indicated below:—

Punjab: (Kulu Valley, Kulu)

Assam: (including NEFA) Hilly areas of Assam and NEFA

Uttar Pradesh: (Hilly districts of U.P.)

Bombay: (Ratnagiri District)

Himachal Pradesh: (Chini and Pungi areas, Chamba, Ram-

pur)

Agartala: Tripura (entire area)

I. Food position in general

- (a) Requirement of various types of foodgrains (Rice, Wheat, Jowar, millets ete.) according to the population.
- (b) How much of the requirement is met internally and how much from outside and from which sources.
- (c) How are the requirements transferred to the inaccessible areas in your State and indicate special problems connected therewith and how they are being managed at present.
- (d) The expenditure involved in obtaining foodgrains from outside, especially indicating expenditure on transport.
- (e) What will be requirement of goodgrains at the end of 2nd Plan period 1960-61 taking into account the rate of increase in population, urbanisation and intra consumption per capita.
- (f) The cost involved.

II. Production position in general

- (i) Geographical area, population and net area sown.
- (ii) Classification of area into permanent pastures and other grassing lands, land under miscellaneous crops, cultivable lands, current fallows etc.
- (iii) Production of principal food crops.
- (iv) Area and crops irrigated.
- (v) Area under principal food crops such as rice, wheat, jowar, millet etc.
- (vi) Average yield per acre of principal crops.
- (vii) Actual expenditure, target and achievement in respect of Grow More Food Schemes in the first Five-Year Plan and in the first year of the Second Five-Year Plan. Target fixed for 1957-58 and the proposed target for the current year as well as the remaining period of the Second plan.

III. Food Production Schemes

- (a) Briefly describe all the food production schemes included in the Second Five Year Plan period giving—
 - (1) their physical and financial targets and achievements from year to year.
 - (2) the target and actual achievements from year to year in terms of food production.
 - (3) in case there is a gap between the targets and achievements in any year, kindly give reasons.
- (b) What are the main measures for increasing food production in your State?
- (c) How have the food production schemes been working and what are the scopes for intensification?

Different kinds of food production schemes.

IV. Minor Irrigation.

- (a) Have surveys been conducted annually or at other intervals regarding the number of minor irrigation works of different types such as wells, tanks, channels etc. that are out of use and the extent of areas lost thereby every year?
- (b) What are the results of such surveys?
- (c) What steps are being taken towards proper maintenance of minor irrigation works to ensure that no such works become out of order resulting in the loss of acreage covered?
- (d) Give in brief the particulars of all the existing minor irrigation works, their total cost, acreage covered and additional food production gained.
- (e) What steps have been taken to ensure full use of the irrigation potential already created?
- (f) Possibilities for taking up new minor irrigation works which promise immediate results, their estimated cost, acreage expected to be benefited and additional food production anticipated.
- (g) What are the yardsticks utilised in calculating additional production for each category of minor irrigation works and have these yardsticks been verified on the basis of crops cutting experiments undertaken?

V. Land Reclamations.

(a) What is the extent of culturable waste and other lands capable of reclamation?

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- (b) How much land has been reclaimed by different agencies and how much of the reclaimed land has actually been cultivated?
- (c) Where land reclaimed has not been cultivated or has gone out of cultivation after reclamation, please give reasons for this.
- (d) What are the existing arrangements for follow-up cultivation of the reclaimed land?
- (e) Is there any legislation in force in the State for bringing fallow lands under cultivation and what is the effect of this legislation?
- (f) Give in brief:
 - (1) the particulars of land reclamation schemes undertaken during the first Five Year Plan and the first two years of the 2nd Plan.
 - (2) Cost of the schemes in each year.
 - (3) Acreage benefited and additional food production gained.
- (g) What are the schemes proposed to be undertaken during the rest of the 2nd Plan period; their estimated cost, acreage expected to be benefited and additional food production anticipated?
- (h) What is the scope for intensifying these schemes in the next two years of the plan period with a view to realise maximum additional production of foodgrains and what will be the cost involved?
- (i) What other schemes of land improvement such as contour bunding, strip cropping, dry farming etc. have been in operation in the State? Please give a note on the working of such schemes and their results.
- (j) What are the yardsticks utilised in calculating additional production for each category of land reclamation and improvement schemes and have these yardsticks been ratified on the basis of crop-cutting experiments undertaken?

VI. Fertilisers.

- (a) What is the annual requirement of the various types of nitrogenous and phosphatic fertilisers for principal food crops for irrigated and unirrigated areas separately?
- (b) What portion of your total requirement of fertilisers is being met at present?
- (c) What are the existing arrangements for the procurement, transport, storage and distribution of fertilisers?
- (d) What steps have been taken to keep the cost of fertilisers to the cultivators at the lowest level and what other facilities are being given to cultivators to encourage the use of fertilisers?

(e) Give in brief:

- (1) the particulars of land reclamation schemes undertaken during the first Five Year Plan and the first two years of the 2nd Plan,
- (2) Cost of the schemes in each year,
- (3) acreage benefited; and
- (4) additional food production gained.
- (f) How far the use of fertilisers can in the next two years be intensified with a view to get maximum possible additional production? What will be the cost involved and the additional production anticipated?
- (g) What are the yardsticks utilised in calculating additional production for each category of fertilisers and have these yardsticks been verified on the basis of crop-cutting experiments undertaken?

VII. Organic Manures

- (1) Please state the working of urban and rural compost schemes. What is the number of municipalities running urban compost schemes?
- (2) Give in brief the progress of Town Compost Scheme undertaken during the last few years, the actual expenditure and the additional food production gained.
- (3) What is the progress in regard to development of local manurial resources in villages? Indicate also in brief the actual expenditure and the additional production anticipated.
- (4) What is the progress in regard to the Night Soil Compost Scheme in Panchayats? Indicate briefly the actual expenditure and the anticipated additional production. If any of these Schemes are not making any good progress, what are the reasons and what remedies would you suggest?
- (5) To what etxent green manuring is being practised, particularly in irrigated or other areas with assured rain-fall? What are the measures proposed for popularising green manuring?
- (6) What are the yardsticks utilised in calculating additional production for each category of manurial schemes and have these yardsticks been verified on the basis of cropcutting experiments undertaken.

VIII. Seeds Schemes

- (1) Describe briefly the arrangements that exist in the State for multiplication and distribution of improved seeds.
- (2) Indicate the area under improved varieties of the principal food crops from 1951-52 giving separate figures for areas covered by seed distribution schemes and for natural spread.

- (3) Describe briefly the progress made in regard to the establishment of seed multiplication farms. How much improved seeds the State Government proposes to distribute out of these seeds farms by the end of the Second Plan Period?
- (4) What are the requirements of pure seed for the entire irrigated and unirrigated area under the food crops to be under improved seeds? What additional quantities do you require to abridge the gap between requirements and the existing production and what steps do you propose to take to meet this gap?
- (5) What are the yardsticks utilised in calculating the additional production for each category of seed schemes and have these yardsticks been verified on the basis of cropcutting experiments undertaken?

1X. Plant Protection Schemes

- (1) What are the schemes at present undertaken for dealing with loss of crops by pests and diseases?
- (2) Give a brief note on the working of the various plant protection schemes in your State since 1951-52 and whether there is any proposal to intensify the schemes?
- (3) Describe briefly, if there are any schemes relating to improved agricultural practices and if so what are these schemes? Indicate also the actual expenditure on these schemes since 1951-52, the additional food-grains anticipated and the schemes that are proposed to be taken up in the remaining period of the Second Plan with the estimated cost.

X. General

- (1) What are the main reasons for the delay in the execution of food production schemes and how the State Govt. proposes to avoid such delays?
- (2) What system is followed in the State to check the progress of food production schemes at regular intervals?
- (3) What steps have the State Govt. taken to lay proper emphasis upon food production schemes in the C.D. and N.E.S. areas? What direct responsibility and authority is exercised by the officers of the Agricultural Department of the State over the working of food production schemes in C.D. & N.E.S. areas.
- (4) What steps have the State Govt. taken to fix food production targets at district, block and village levels?
- (5) Describe briefly the legislation introduced in the State during the last five years for assisting food production and do you consider any further legislation desirable or necessary for increasing food production in your States?
- XI. Any other suggestions for making the area self-sufficient in food.
- XII. Is there any scope for further improvement to be implemented under existing schemes?

INACCESSIBLE AREAS COMMITTEE REPORT PART II

1. ASSAM



HILLY DISTRICTS OF ASSAM

General Observations

Lying astride the Brahamaputra and the Surma valleys, the Shillong plateau constitutes the Central core of the physiography of Assam. The plateau comprises of the Garo, the Khasi and the Jaintia Hills, bordered by the Cachar Hills in the south-east and the Mikir Hills in the north-west. The southern face receives a rainfall averaging about 150 inches; the maximum force of both the Bay of Bengal and the Arabian Sea monsoons is felt at Cheerapunji, registering the highest rainfall in the world, viz., 460 inches. The flora exhibits reaction to high humidity, copious rainfall and soil conditions peculiar to this region. The characteristic species of the region is Pinus incularis (p. Khasia). The northern and the western ranges have an average elevation of 2,500 ft.; the central plateau reaches an elevation of 6,000 ft. The rock is firm, withstanding the forces of nature despite heavy rainfall. The cascades characterising the landscape near Cheerapunji and Shillong provide a measure of the comparative freedom from erodibility of this region.

- 2. The eastern edge of the plateau is imbedded into the Himalayan arm running north to south, extending upto the Bay of Bengal. The Lushai Hills (Mizo Hills) lying to the south of Manipur faithfully stick to the north-south pattern of the mountain ranges in this region. The ruling elevation averages 3,000 ft. rising to 7,100 ft. in the south (Blue Mountains) and 8,000 ft. towards the Chin Hills. Rainfall is 75 to 100 inches (Aijal 83 inches), rising to 140 inches at Lungleh.
- 3. Sturdy and generally short of stature, the tribes inhabiting the plateau have a cheerful disposition. Each tribe preserves its cultural individuality apart from those adjoining the plains who have gradually succumbed to the cultural and economic influences of the plain's area.
- 4. Agriculture constitutes the main occupation of the tribes. They all subsist on shifting cultivation with the solitary exceptions of the Angami Nagas, who have developed an exceedingly efficient system of 'wet' terracing to supplement their jhuming. Their method of cultivation is as primitive as their tools. There is hardly any industry worth the name to take the load off the land which carries the entire burden of sustaining these tribes. Some of the tribes weave cloth. Exceedingly picturesque and colourful designs in cotton fabrics have been developed in the Naga Hills, each clan having its own colours. Vegetable dyes are still in evidence. Woollen weaves are uncommon.
- 5. The Inaccessible Areas Committee visited the Hills Division of Assam to gain a first hand knowledge of the problems facing those regions. The problems which are in consequence of the inaccessibility of this region are, in a broad sense, the same in all the districts. Variations exist only in the degree of severity of adverse conditions.

- 6. The hilly region of Assam is mostly comprised of Mikir and N. C. Hills, Garo Hills, Khasi and Jaintia Hills and Mizo Hills districts and the area as a whole is 22,724 sq. miles. According to the draft of the Second Plan, the daily consumption per capita is recommended at 15.5 ounces of foodgrains and 2.8 ounces of pulses. Applying this formula, and providing a margin for increase in population, the annual total demand is calculated at 1.92 lakh tons. The annual local production is to the tune of 1.82 lakh tons and the annual shortage of 0.10 lakh tons is being met from other sources.
- 7. While the Hill Districts excluding the Naga Hills constitute 40% of the total cropped area of the State the area under cultivation is only 8.5% of that area. Even in this area the general standard of cultivation at present leaves much room for improvement. There is yet much to be known about the best means of tackling the problem in areas where there has been a normal system of shifting cultivation and again of the background of land laws in some areas where there are no incentive for permanent cultivation.
- 8. The most effective remedy for inaccessible areas being accessibility the phasing of such a programme will, however, depend upon financial and technical consideration. No economic development of mountainous areas is possible without adequate communication facilities.
- 9. The Committee investigated the existing plans for development of communications either from the State Plan Funds or Special Central Grants, and examined whether it would be possible to enhance existing targets, and if so what would be the requirements for additional funds and the period over which the programme could be phased.
- 10. The economic problem of Assam hills is similar to other such regions. The countryside has been denuded of vegetation and soil fertility due to faulty cultivation, and the absence of effective terracing, and afforestation programmes.
- 11. The Committee's recommendations, therefore, are mostly for expanded and accelerated communication programmes and introduction of soil conservation and afforestation measures as a long-term policy.
- 12. With regard to maximisation of local production, suitable schemes for agricultural programmes are being recommended but care has been taken that these programmes may not result in further soil erosion. Attention is invited to para 1.20 of the General Report of the Committee in which a four-pronged drive was suggested as the most practical solution for problems of such areas. Local conditions in the hills of Assam are such that every emphasis has to be laid on such a programme of action to be adopted. The four points of the plan recommended are as follows:—
 - Accelerating existing road development programmes after reorientating them where necessary to suit local needs and conditions.
 - (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.

- (iii) Development of Horticulture and other plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing powers.
- (iv) Executing effective soil conservation measures in close coordination with road, agriculture and horticultural development plans and implementation of afforestation schemes on an extensive scale.
- 13. During discussions with the District Council at Tura, the capital of the Garo Hills District, it was brought to the notice of the Committee that elephants, wild beasts and monkeys are a great menace and cause considerable loss to the crops every year. The number of wild animals in the neighbouring cultivable areas should be kept under check and for that purpose, it would be necessary to issue more guns to the villagers at subsidised rates to scare away the animals and adequate rewards granted for killing such wild beasts which prove to be destructive.

Existing Food Production Programme.

- 14. The geographical area of the hill districts of Assam is 145.43 lakh acres and the net area sown is 4.50 lakh acres. The general State-wide schemes for food production such as minor irrigation, soil conservation, production and distribution of improved seeds, development of organic manures including green manuring, distribution of manures and fertilizers, plant protection measures, horticulture and issue of improved implements are also in execution in these Districts. Besides these, there are schemes such as those relating to the extension of wet paddy cultivation, extension of high altitude paddy cultivation and reclamation. Moreover, the facilities of power pump irrigation are also made available.
- 15. Keeping in view difficult local conditions, the food production schemes are generally working satisfactorily, but intensification of effort will be necessary to bring these areas within a reasonable state of comparison with other areas of the State.
- 16. Excepting oil-cake and bone-meal, the requirements of fertilizers are met on a pro-rata basis alongwith other States. Although there is a demand for oil-cake, its distribution has been stopped at the instance of the Government of India who are not prepared to issue it at subsidised rates. In regard to bone-meal, only half of the requirements of cultivators are met as the commodity is not available in sufficient quantity. The existing arrangement for supply of all nitrogenous fertilizers received from the pool of the Government of India is through the Agents appointed by the State. All chemical fertilizers are issued at subsidised rates. Subject to provision of funds, some quantities of fertilizers are also issued free.
- 17. The Committee are of the opinion that the question of subsidising fertilizers may be considered at high level. The resources of cultivators in these areas are not the same as in better developed areas and in the Committee's opinion for the initial stages of any fertilizer programme subsidization will be necessary.

Communications.

- 18. As stated in paras 1.21 and 1.22 of the General Report the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock carts, tracks or footpaths. In the case of hill districts of Assam, this is all the more important as horticulture, which is the most important occupation of the people, needs a special coordinated programme of communications. Such a programme will enable the cultivator to bring his produce to the marketing and processing centres. Communication therefore is of vital importance in these areas and unless the roads and paths are opened the production of cash crops and food crops will be left without any incentive for their development.
- 19. The Assam State Industrial Development Conference has stated:—

"Small juice extraction units also appear to have considerable scope particularly in the border areas of the Hill Districts, provided cheap transport e.g., through ropeway was made available. There was also need for a comprehensive agricultural programme for the growing of plums, peaches, pears and other fruits in the State, particularly in the Hill areas, where there was considerable scope. It was also necessary to examine the scope of markets for canned fruits outside India. We also noted the possibilities of installing a paper mill, based on the Bamboo resources of the Kamrup and Goalpara and Garo Hills areas and again took note of the present difficulty of the non-availability of coal and limestone in spite of the knowledge that the deposit of coal and limestone occur in Garo Hills, exploitation of which is at present handicapped by lack of communications. Hence high priority for the improvement of communications in the area was recommended".

- 20. Such a situation makes it necessary for Government to decide that, in recognition of the extreme economic backwardness of these hills, and other important considerations the population factor should not influence any consideration in favour of development of communication in such areas.
- 21. Although the need for opening out these areas has earned due recognition, progress of actual work up-to-date is not what it should be.
- 22. The position of the roads in the hilly areas of Assam is as under:—
- 23. The Government of India are primarily responsible for the development of roads declared as National Highways throughout the country and other National Highways in the Union Territories. All roads other than National Highways in States are primarily the responsibility of the State Government concerned. However, in order to help the State Government, grants are given by the Government of India for road schemes in States under the Central Aid Programme for the development of State roads of inter-State or economic importance and from the Central Road Fund Reserve. Besides, grants are given by the Ministry of Home Affairs for road development in scheduled areas under Article 275(1) of the Constitution.

- 24. Apart from the Dawki-Shillong-Jorhat National Highway which is entirely a Central liability, the Passi-Badarpur road project and seventeen other road schemes in the autonomous districts are being financed by the Government of India for providing road communication facilities in the backward hilly areas of Assam.
- 25. A total provision of Rs. 3.10 lakhs has been included in the National Highway programme for widening certain section of Dawki-Shillong-Jorhat National Highway during the current plan period, and the work is in progress. The road passes through the Khasi and Jaintia hills.
- 26. Estimated to cost Rs. 1.45 crores, the Passi-Badarpur Road is being financed entirely by the Government of India. The road, when completed, will provide an all-weather link in the road between Agartala and the rest of India. The first phase of the construction of the road was completed during the first plan period at a total cost of Rs. 70 lakhs. A provision of Rs. 75 lakhs for the construction of bridges and for black-topping the road has been included in the current plan. Estimates aggregating about Rs. 51.00 lakhs for the construction of certain bridges have so far been sanctioned.
- 27. Funds for road development in scheduled areas of Assam areas are provided by the Ministry of Home Affairs by way of grants under article 275(1) of the Constitution. The approved programme consists of 12 road schemes of first priority and five road schemes of second priority estimated to cost Rs. 3.20 crores and 1.12 crores respectively. Estimates aggregating Rs. 2.97 crores and 0.27 crores have been sanctioned for priority I and II schemes respectively. Expenditure aggregating Rs. 1.58 crores was incurred on the approved works during the first plan period. A sum of Rs. 97 lakhs was spent on these roads during the first two years of the Second Plan period. A supplementary programme consisting of seven road projects, estimated to cost Rs. 90 lakhs, which is proposed to be taken up by the State Government during the Second Plan period, is under the consideration of the Ministry of Home Affairs.
- 28. The partition of the Country has severely disrupted the economy of the areas of these districts. This conclusion has been fully borne out by surveys conducted by the Statistical Department of the State Govt. Prior to partition, the economy of these areas was linked up with that of adjoining districts which now form part of East Pakistan. The produce consisting mostly of perishables like oranges, pan leaves, pine-apples and also non-perishables like bamboos and timbers used to find a natural market in East Pakistan where they were conveniently transported through the various rivers and streams flowing down from the hills to the plains. The value of the goods exported to East Pakistan district from the United Khasi-Jaintia Hills district alone during pre-partition days was estimated at Rs. 2.5 crores per annum. For their essential requirements like foodgrains, fish and other essential commodities, the people of these areas, in turn, depended on the supply from the neighbouring East Pakistan districts.
- 29. The problem of the border areas has been in the limelight for the last ten or eleven years and efforts have been made to alleviate

the difficulties. The attention which the problem has received, however, has been rather spasmodic depending on circumstances as to whether there was a comparative free trade allowed with the adjoining areas of Pakistan or not. Whenever the trade with the border in the areas of Pakistan was comparatively easy, the problem received less attention and whenever stringent measures were adopted by the Pakistan authorities the problem cropped up again and some action on the part of Government became inevitable. The situation created by the cordoning off of the border by the Pakistan authorities has amply proved that it is no longer prudent to leave the fate of these border people to the whims of the Pakistan Government. In any case, with existing state of relationship between India and Pakistan it is safe to assume that unless permanent alternative arrangements for the economy of the border people are made within India the situation will continue at a serious economic disadvantage to these border people. The time has, therefore, come to consider the permanent aspect of the rehabilitation of their economy.

- 30. The problem attracted the attention of the Government of India in 1952 when a high powered Committee headed by Shri H. V. R. Iengar, the then Secretary to the Ministry of Home Affairs was appointed to go into the whole question of relief of the border people and to submit specific recommendations in respect of both short-term and long-term measures. The Committee, after touring some of the border areas and detailed discussions with the representatives of the State Government, recommended the construction of a net-work of roads in the United Khasi-Jaintia Hills and Garo Hills to link up the border areas with the other areas of the State, and to arrange supply of food-stuffs and other essential commodities at subsidised rates.
- 31. To implement the recommendations of that Committee the State Govt. with the approval of the Government of India, initiated in 1953 a road programme at a total estimated cost of Rs. 256 lakhs financed out of Article 275 Grants. These road programmes were subsequently supplemented by the road programmes financed out of the State revenue and from other sources. Some of these roads have since been completed and are now open for motor traffic but due to the difficult terrain, and for some other difficulties such as limited working season, shortage of technical personnel, and shortage of bridge materials, work on the other roads though in progress is still imcomplete. It is very unlikely that these roads will be ready for vehicular traffic before the end of the Second Five Year Plan period.
- 32. The additional road programme in the State Second Five Year Plan for the border areas of these districts has also been taken up at a total estimated cost of Rs. 173.70 lakhs. In spite of the construction of these roads, it is felt that a large part of the border in the far-flung areas of these districts will still be left without suitable road communications, without which quick movement of goods to and from the border areas will not be possible.
- 33. In early 1958, the State Government had also appointed two separate Committees under the Chairmanship of the Commissioner of Hills Division and Appeals, Assam, to examine the measures

required to be undertaken for the rehabilitation of the economy of the people living in the border areas of the Unite Khasi-Jaintia Hills District and the Garo Hills District adjoining East Pakistan, whose economic condition has been adversely affected consequent upon the stoppage of trade in the border markets. The Committee fully endorse the views expressed by the State Border Areas Committee and strongly recommend that the roads recommended by the Border Committee which have not yet been taken up should be completed. Besides, there are certain roads other than border roads which should also be constructed. This will involve an expenditure to the tune of Rs. 909.47 lakhs. The details of such roads together with their estimated expenditure is appended. (Appendix-Assam/'A')

34. The Committee are of the opinion that any marked economic development of this region cannot be possible without the construction of roads detailed above.

Agricultural Development and Research

35. The following schemes are recommended:

Soil Conservation and Afforestation

- 36. In order to relieve the immediate and long term difficulties of the tribal people inhabiting the hill Districts bordering Pakistan, the Committee recommend that the following measures should be adopted:
 - (i) afforestation of barren hill tops to regulate the perennial flow of streams occurring in the region and to recreate perennial stream flows where such have been destroyed by erosion.
 - (ii) the preservation of existing vegetative cover on the hill slopes, which may be subjected to shifting cultivation for the production of annual cereal food crops thus leading to heavy soil erosion in the exposed shifting fields; by offering inducements to the tribes men concerned to retain the present many-storeyed forest cover to enable them to raise non-perishable cash crops such as pepper, cardamom and coffee at appropriate elevations;
 - (iii) by raising in the shifting fields along with the annual cereal crops non-perishable cash crops requiring full overhead sun light such as para-rubber and cashewnut at appropriate elevations, so that by the time the fields are abandoned after one or two years cultivation of these cash crops species would have made some progress towards establishment; and
 - (iv) creation of terraces, where paddy can be grown with irrigation by gravity or by using hydrams to lift up water from perennial streams or without irrigation by adopting cultural practices such as farm-yard manuring, green manuring and use of fertilizers.

Schemes for the Afforestation of Barren hill tops.

37. Estimated total expenditure—Rs. 3,60,000 Approx. or Rs. 60,000 p.a.

The scheme proposed for the hill districts as a whole under the Third Five Year Plan period is for the afforestation of 25,000 acres. It is recommended that, over and above, the normal activities, 6 square miles of barren hill tops should be taken up during the period of six years at the rate of 1 sq. mile per annum. The immediate benefit of the scheme will be that it will provide employment to the tribal people and the long term benefit is that it will help in minimising soil erosion, improvement of stream flows, easy availability of firewood, availability of timber for house construction and lopping for green manuring of the fields.

Scheme for the establishment of nurseries to facilitate cultivation of cash crops under the shade of existing forest trees

- 38. Estimated total expenditure—Rs. 1 crore and 5 lakhs. The propagation of the cash crops viz. coffee, pepper and cardamom needs establishment and proper maintenance of nurseries. It is recommended that one hundred such 'cash crops nurseries' may be established for the border areas for the period of six years. The details of expenditure are appended (Appendix-Assam|'B').
- 39. Each nursery is estimated to produce planting materials for about 100 acres of plantations of different types annually. Thus. 60,000 acres of plantations can be created in six years.

Subsidy Scheme for cashewnut and para-rubber to be grown in the fields of shifting cultivation.

40. Estimated total expenditure—Rs. 11 lakhs (on both schemes). The plantation of cashewnut covering an area of 6,000 acres during the period of six years is recommended. The cost of creation of such cashewnut plantations is estimated at Rs. 250 per acre. But as in respect of some of these plantations, the expenditure for full five years will not be required, the average expenditure per acre is estimated at Rs. 90 after taking into consideration the subsidy required. For 6,000 acres, the expenditure is estimated at Rs. 6,00,000 including the cost of cashewnut seeds. The details of expenditure are shown in Appendix—Assam/'C'.

Scheme for Terracing and Irrigation of paddy fields

41. Estimated total expenditure—Rs. 142.35 lakhs.

On the assumption that about 50 centres can be found where gravity irrigation or hydrams are available for 50 acres of paddy, the estimated cost of terracing and provision of irrigation facilities is Rs. 142.35 lakhs.

Scheme for development of cash crop.

42. Estimated total expenditure—Rs. 45 lakhs Estimated additional production—750 tons.

The object of the scheme is to extend the cultivation of non-perishable cash crops like Arecanut, Coconut, Black-pepper, Cashewnut, Cotton, Ginger and Groundnut. A subsidy at the rate of Rs. 225 per acre subject to the maximum of Rs. 450 per family is proposed to be given for cultivation of these cash crops.

Scheme for Soil Conservation

43. Estimated total expenditure—Rs. 6 lakhs approx.

Additional production—3,095 tons.

Under this scheme, various forms of terraces will be made for bringing land under cultivation. A subsidy at the rate of Rs. 150 per acre is proposed to be given to the cultivators. A special subsidy at the rate of Rs. 450 per acre is, however, proposed in favour of Mizo District where the problem requires more attention and where the cost of labour is very high.

Scheme for land reclamation.

44. Estimated total expenditure—Rs. 18 lakhs.

Additional Production-800 tons.

It is proposed to give 90% subsidy to the people for reclamation work and bringing new areas under cultivation.

Scheme for Extension of Wet Paddy Cultivation

45. Estimated total expenditure—Rs. 12 lakhs. Additional Production—1,800 tons.

The object of the scheme is to extend areas under wet paddycultivation by contour bunding, irrigation, terracing and installation of power pumps. It is proposed to give a subsidy of Rs. 150 per acreto the cultivators.

Scheme for Minor Irrigation

46. Estimated total expenditure—Rs. 5 lakhs.

Additional Production-1,800 tons.

The scheme will provide small bunds and channels for irrigation. These projects will be taken up on self-help basis with limited Government assistance, not exceeding Rs. 160 per acre.

Scheme for the establishment and maintenance of demonstration Farms-cum-Nurseries

47. Estimated total expenditure—Rs. 5 lakhs

Additional Production-390 tons.

The main object of the scheme is to multiply improved seeds, plants and grafts for demonstration and distribution to the cultivators at subsidised rates. The details of expenditure are given in Appendix-Assam/'D'.

Scheme for the Distribution of Seeds, Plants etc.

48. Estimated total expenditure—Rs. 10 lakhs.

Additional Production—1,500 tons.

With a view to provide these areas with quality seed and plants, it is proposed to distribute the same at subsidised rates.

Scheme for the distribution of Manures, Fertilizers and Pesticides.

49. Estimated total expenditure—Rs. 8 lakhs.

Additional production—400 tons.

It is proposed to distribute manures, fertilizers and pesticides at subsidised rates.

Scheme for the Agricultural Administration.

50. Estimated total expenditure—Rs. 6.50 lakhs.

The existing agricultural staff will be inadequate to implement any intensified programme in these areas. It is, therefore, necessary to strengthen the existing field staff. The details of expenditure are appended. (Appendix—Assam/'E').

Scheme for Works and Transport

51. Estimated total expenditure—Rs. 9.50 lakhs.

In order to facilitate the implementation of the special agricultural programme, it is proposed to construct some agricultural supply stores, office buildings and quarters in these areas. Some vehicles will also be necessary for transportation of seeds and manures and for ensuring proper supervision.

Scheme for Distribution of Improved Tools and Implements

52. Estimated total expenditure—Rs. 5 lakhs.

It is proposed to subsidize the supply of improved tools and implements at an estimated cost of Rs. 5 lakhs.

Scheme for Fruit Preservation Units

53. Estimated total expenditure—Rs. 20 lakhs.

Three Fruit preservation Units with dehydration facilities for ginger are proposed to be set up. The surplus perishable cash crop i.e. orange, pineapple etc. produced in the inaccessible areas can be utilized for preservation. Imparting practical training in fruit preservation is also proposed. The details of expenditure are given in Appendix-Assam/'F'.

54. The estimated expenditure on all these agricultural development schemes is Rs. 411.95 lakhs.

Fisheries

55. Fish is relished as an item of food by most tribals. Scientific development of fisheries in these areas will ensure supplies of this important supplementary diet and reduce the demand on foodgrains. The Committee accordingly recommend the establishment of Fishery Centres at Dalu, Jatrakona, Sibbari, Mahendraganj and Boldamgiri.

Marketing

56. It was brought to the notice of the Committee that in the absence of marketing facilities in the Baghmara area, pineapples were once sold at the price of 25 nP. for 200 fruits. As explained

earlier, partition has deprived the local cultivators from readily available outlets for fruits in Markets adjoining Indian districts of Assam, and has resulted in a glut. The provision of adequate marketing and processing facilities in these areas should form top priority with State Government.

Cottage Industry

- 57. Bamboo is found in abundance. In order to utilise this forest product to the best advantage of the tribal people, the Committee are of the opinion that crushing machines be installed to enable the people to derive maximum benefit
- 58. The Committee also feel that detailed project studies should be undertaken by the State Govt. for the establishment of cottage industries. The proposal for a production unit for the utilization of China-clay and fire-clay may be further explored.

Similarly the manufacture of match-sticks and fibrous materials may also be examined.

Jhum Cultivation

- 59. Jhum Cultivation is most widely followed in these areas. As already recommended by the Committee in para 1.55 of their General Report, whatever material exists in the way of scientific research in Jhum Cultivation should be converted into definite plans for implementation in these areas.
- 60. There is, however, considerable room for improved practices in Jhum lands. The Committee endorse the views expressed by Shri M. S. Sivaraman, ICS, Adviser, Programme Administration, Planning Commission, in his note of April, 1957. (Appendix-Assam/'G'). It is recommended that the suggestions contained therein may be followed.
- 61. The Committee also recommend that some Jhum land should be taken over by Govt. for scientific cultivation for demonstration purposes to tribal villagers. It is hoped that seeing better yields in adjoining Govt. demonstration units, will persuade local cultivators to adopt better techniques.

Central Pattern of Assistance

62. As regards the pattern of Central Assistance to be given for schemes in these Districts, the Committee would like to emphasise that the normal pattern applicable to the rest of the country should be relaxed. After taking into account all the circumstances prevailing in the various inaccessible areas, the Committee have come to the conclusion, and accordingly recommend that the pattern of Central Assistance should be on the following basis:—

Pilot Schemes 100% Subsidy.

66% Subsidy to be shared equally between the Centre and the State or the Other Schemes

existing assistance whichever is beneficial to the State.

Financial Implications

63. The Committee find it difficult to form a fair estimate of what a special programme is likely to cost for the development of the L 2F&A-4

Distts. As mentioned in the General Report of the Committee (Paras 1.13 to 1.15) the Committee have already expressed their firm opinion that within the resources of normal planning at State level, districts like Mikir and N. C. Hills, Garo Hills, Khasi and Jaintia Hills and Mizo Hills can never hope to attain a state of development comparable with more fortunate and better developed areas. The problems of such areas should be deemed as National and special provisions, therefore, made in addition to existing plan schemes. As the size of the Third Plan is still in a very tentative stage, the Committee are only in a position to make equally tentative estimates. The size of the Second Five Year Plan of Assam State is Rs. 5793.69 lakhs, the share of the hills districts being Rs. 619.70 lakhs. Presuming that the Third Plan will be approximately 2½ times the size of the Second Plan, Assam Hills Districts' share will be Rs. 1549.25 lakhs. Keeping in consideration their recommendation to allot special programmes for inaccessible areas, the Committee recommend that for Assam Hills Districts in addition to the normal 2½ times increase from the Second to the Third Plan, schemes worth and extra 50% of the size of the Third Plan should be sanctioned. The total recommended outlay amounts to Rs. 2323.88 lakhs, which can be suitably phased over a period of time according to the availability of funds.

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APPENDIX-ASSAM/'A'

Sia tement showing the abstract requirements of road projects in the Border Areas of United Khasi-Jaintia Hills, Garo Hills and Mizo Districts, and also of road projects other than Border Areas in the Autonomous Districts of Assam

District			Milea	ge Approx.	Remarks
Border Roads			miles	lakhs	
United Khasi-Jaintia Hills			259	142.50	
Garo Hills		••	111	73 • 50	
Mizo District		• •	1,244	388-00	
	TOTAL	••	1,614	604 · 00	
Roads other than Border Roads					
United Khasi-Jaintia Hills	••	••	263	157 · 80	
Garo Hills			28	16.80	
Mizo District	5		50	42.00	
United Mikir & N.C. Hills			165	88.87	
	TOTAL		506	305 · 47	
Gr	AND TOTAL		2,120	909 - 47	

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Statement showing the Roads Recommended by the Border Committees of United K.J. Hills, Garo Hills & Mizo Districts and not yet taken up

1							
SI. No	Sl. No Name of Roads in order of priority	Jo	Direction	From where to where	Length	Approx. cost	x. Service
-	2		m	4	٠,	9	7
1	I Mawsynram-Mawdon-Rengku	:	S.W. Shillong	From Mawsynram to Nawdon and Rengku via Lawbah and Phlan- gsynrei villages.	Miles 15	Lakhs 15.00	Will serve the Border Areas of United K-J Hills
7	Smit-Mawlat	:	S.E. of Shillong	From Smit to Mawlat wa Maw-kymew and Lingshing villages.	25	12.50	<u>Б</u>
æ	A link road with Balat	:	S.W. of Shillong	Feeder road to link Bagli, Mohesh- khola etc. with Balat.	30	15.50	Do.
4	Mawnihthied-Mawsahew .	: · :	South of Shillong	From Mawmithied to Maswhew through Laiduh, Wahkaliar, Nonglyngkien & Mawrap Villages.	7	3.50	Оо.
5	5 Sobiong-Mawkneng-parlong Road	Road	West of Shillong	West of Shillong From Sohiong to Partong via Maw-kneng.	15	. 7.50	Do.
9	Sonapahar-Dorangre	:	D°	From Sonapahar to Dorangre	40	20.00	Do.
7	Extension of the Pynursla Umniuh- Trar Road to Nengjri.	naiuh-	S.E. of Shillong	From Tmar to Nongjri to meet the Mawsmai-Shella Road at a nearest Point.	4	4.00	Do.
∞	8 Amlarem-Dawki	:	Do.	From Amlarem to Dawki	20	10.00	Do.
6	Rymbai-Borghat	:	Do.	From Rymbai to Borghat.	20	10.00	Do.
10	10 Ishamati-Bholaganj	:	South of Shillong.	From Ishamati to Bholaganj through Tyllab Bazar	7	3.50	Do.
=	11 Jakrem-Ranikor	:		S.W.of Shillong, From Mawkyrwat to Ranikor	36	13.50	Do.

17	Mawmluh-Mawshamok	:	South of Shillong.	From Mawluh to Mawshamok	4	3.50	Will serve the border areas of the Distt.
13	13 Mawshamo-Laitkynsewk	:	Do.	From Mawshamok to Laitkynsew	4	8.00	Do.
14	14 Hahim-Sonapahar	:	West of Shillong	From Halism to Sonapaltar	32	16.00	Dc.
	Garo Hills						
-	9th mile Agar-Parokhasia	:	South of Tura	From 9th mile Agar to Parakhasia	25	12.50	Will serve the border areas of Garo Hills.
7	12th mìle of Tura-Dalu Road to Bagh- mate-Darugiri Road.	agh-	Do.	From 12th mile of Tura-Dalu road via Damdamgiri & Chakpat extending the same to Emanggiri meeting the Baghmara-Darugiri Road.	1	10.00	Will serve the feeder road to Tura-Dalu and Baghmara-Dam- giri Road.
m	Gasanpara-Chokpot	:	S.E. of Tura	From Gasanpara to Chokpot	18	00.9	Will serve as feeder road to Dalu-Bagh- mara road.
4	Extension of Baghmara Mahadeo road to Maheshkhola.	road	Po O	From Mahadeo to Maheshkhola	12	9.00	For border security purpose.
2	Mahendraganj-Dalu	:	South of Jura	From Mahandraganj to Dalu	32	16.00	Will serve the border areas of the distt.
9	6 Ampati-Bordamagiri	:	. 1	From Ampati to Boldamgiri	9	3.00	Do.
7	Boldamgiri-Mahendraganj	:	S.W. of Tura	From Boldangiri to Mahendra- ganj	1	2.00	Do.
00	11th mile of Tura-Mankachar Mehim Agar.	Ş	West of Tura	From 11th mile of Tura-Manka- char road via Dengmakhara to Melin joining the 9th mile Agar Para khakia mad.			Do.
0	Parakhasia-Ampati	:	South of Tura	From Parakhasia to Ampati	1	3.00	Do.
2	10 Ampatigiri-Mahendraganj	:	S.W. of Tura		18	90.3	Do.

-	2	.3	4	5	9	7
-	Mizo District I Longai Valley-Demagiri-Dumdama	North of Aijal	From Longai valley in Cachar Distr. running along the border to Demagiri & Dundama.	Miles 350	Lakhs 16,500	Will serve the border areas North-east of Aijal.
7	2 Sairang-Tut River	North of Aijal	From Sairang of Tut-River	30	15.00	
3	Blasting of rocks in the Leolodgm River			i	1.36	1.50 To make the river navi- gable.
_	Sairang-Mamit-Kuarthak	North of Aijal	From Sairang to Muarthak via	34	8.50	
٠٢	2 Bridge Camp-Govagulukahena-gonda	बय		8	15.00	
e.	Champhai-Khawgawl-Laugdai-N. Vadlaiphai-Keitum.	भव नयः	From Champhai through Khaw-zaul, Langdai, North Vaulai-phai to Keitum.	80	20.00	
4	4 Tipermukh-Chawphai	North-East of Aijal.	From Tipaimukh to Champhai	80	20.00	
ν.	North Vamlaiphai-Chuhlum-Thngiai- Bualphi-Tio Tuipang.		From North Vamlaiphai through Cherblun.	20	12.50	
9	Hnathial-Dargo-South Vaulaiphai-Sangam-B-Momtain-Bualpai-Saila.			89	15.00	
7	Lungleh-Demagiri	South of Aijal	South of Aijal From Plidge Camp to Demagiri	4	4.00	
∞ <i>o</i> v	Lungleh-Taipang Damchura-Pedge Camp		From Damchara via Kuarthak to Pidge Camp.	70 150	18·00 33·00	
10	10 Champhai-Lungdai		From Champhai via Dilkhawn to Lungdar	8	15.00	

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-	1 Aijal-Tuipuibari	:	:	:	From Aijal via Reiek to Tuipui- bari.	8	50 12·50
7	2 Thengual-Selsip	:	:	:		02	2.50
m	3 Lungtlian-Cherhmum	:	:	:	From Lungthai via Mawpui, Atlang to Chuhmum.	20	12.50
4	4 Kuikhum-Lungleh	:	:	:	From Kuikhum via Sabuel and Burpui to Lungleh.	70	70 18·00

mme	Service
any progra	Approx.
et included in	Length
and not y	to where
by different agencies and not yet included in any programme	From where to where
he roads proposed by c	Direction
Statement showing the	Name of Roads

	Statement snowing	me roc	ias proposea by	Siturement snowing the roads proposed by different agencies and not yet included in any programme	ncluded in	any prog	gramme
S.S.	Name of Roads		Direction	From where to where	Length	Approx.	Service
-	2		m	4	8	9	7
1	United Khasi-Jaintia Hills Shillong-Diengpasoh Umthlish	:	N.E. of Shillong	N.E. of Shillong From Shillong through Dieng- pasoh, Kyrdem & Umpanai to Umthlieh in the border of Mikir Hills.	Miles 150	Lakhs 90.00	The road will serve a vast fertile interior area in the North East. Hills District Hills District
7	2 Mawtawar-Tyrso	:	Do.	From Mawtawar near Shillong to Tyrso in Bhoi area.	55	33.00	The road will connect the fertile low lands of Bhoi area with shillong.
3	Umran-Mynrdon	:. :	N. of Shillong	From Umran on the G.S. Road to Mynrdon.	10	90.9	The road will link Mynrdon areas with G.S. Road at Umran.
4	Wahjajier-Nartiang-Borato	:	East of Shillong	From Wahjajier near Jowai to Borato via Nartiang.	13	7.80	
S	Sutnga-Saipung	;	Do.		15	09.6	
9	Mawiang-Myriaw	:	West of Shillong		16	09.6	
7	7 Mawthawpdhah-Langrin	:	Do.		4	2.40	
	Garo Hills						
-	Godalgiri-Inchakuri	:		From Godalgiri through Baniapara, Bandaraja, Detasing, Kharu- gaon, Marpara, Morkoria and Bashbari villages to Inchakuri.	∞	4.80	
7	Bagsugiri-Nayapara	:		From Bakshugigi to Nayapara meeting the Baligatna-Bok- khora P.W.D. Road.	66	4.80	

7.20		42.00		4.80	00.9	1.90	24.00	24.00	4.80	2.40	6.30	10-80	3.87 To connect S.E. Frontier of N.C. Hills in Raja Bazar in Cachar Distt.
12		20		∞	30	m	9	\$	∞	4	9	18	∞
		From Demagni to Dasdar in Tripura State along the bank of Sajute river.				From Jatinga on Garampani Sil- char Road to Haffong Hills Station Road.	From Garampani to Lanka via	100 Aug	From Tumpreng via Donka, Nutan & Shilani villages to Artukekongdeng.		From Borgaon via Ahomharai- gaon & Rongjungtang to Amt- reng.		From Kumacherra to Chellai in Cachar District
3 Mangchin-Rajobala Sec. II.	Mizo District	Demgauiri-Dasdar	United Mikir and N.C. Hills District	Boithalangsu-Umbaso	Umpanai-Masalderang	Surfacing Haflong feeder Road	Garampani-Langka	5 Gunjeng-Henima	Tumpreng-Artukekongdeng	7 Kumarkata-Tumpreng Forest Road .	Borgran-Amtreng	Dillai-Sarihajan	10 Kumacherra-Chellai
e		-		-	7	m	4	8	9	7	∞	6	10

APPENDIX-ASSAM /'B'

Details of the estimated cost for the establishment of nurseries to facilitate cultivation of cash crops under the shade of existing forest trees

					Rs.	
<i>(i)</i>	Cost of 100	nurscries @	Rs. 4,000 per nu	irsery .		4,00,000
(ii)	Pay of 100	nursery men	@ Rs. 60 p.m. fo	r six year	rs 4,32,000	
(iii)			ry staff (3 officers of on Officer and nin			
				TOTAL .	. 7,80,400	7,80,400
(iv)	Stores, Stati	ionery and Fi	urniture etc		•	30,000
(v)	Expenditure 1,600 each.		for 100 nursery m	en @ R	s. 1,60,000	
(vi)	Expenditure building for		for Supervising star	ff and offic	e . 1,71,000	
				TOTAL .	. 3,31,000	3,31,000
(vii)	Subsidy acres	Rs. 150 per	acre for six years	for 60,000	0 ·	90,00,000
			A STATE	TOTAL .	•	1,05,41,400
					say Rupees or five lakhs	ne crore and



APPENDIX-ASSAM/'C'

Details of the estimated expenditure on Subsidy for the plantation of cashewnut and para-rubber

	Rs.
(i) Expenditure on plantation of cashewnut covering an area of 6,000 acres and cost of cashewnut seeds	6,00,000
(ii) Pay of 3 Foresters and 12 Forest Guards Rs. 100 @ and Rs. 65 p.m. respectively for six	
years	77,760
(iii) Travelling allowances	32,400
(iv) Quarters for Foresters and Forest Guards	34,200
Total cost on cashewnut subsidy scheme	7,44,360
Ad-hoc provision for Para-rubber subsidy scheme	3,55,000
GRAND TOTAL say	10,99,360 Rs. 11 lakhs



APPENDIX—ASSAM 'D' Detailed Scheme for Establishment and Maintenance of Demonstration Farms-cum-Nurseries.

The state of the s		Į.	X.	K.J. Hills				Garo	Garo Hills		
ratuculats		K E	2nd Yr.	동국	Yr.	χς.	Yr.	2nd Yr.	3rd Yr.	축.	Xr.
(1)		(2)	3	4	(2)	(9)	6	(8)	(6)	(10)	(11)
RECURRING: +- Pay of Establishment										i	
One Field Asstt. (75-125) (in each farm)	:	450	1,400	2,000	2,100	2,200	450	1,400	2,000	2,100	2,200
One Fieldman (60-100) (in each farm)	:	Ĺ	700	1,480	1,600	1,700	1	700	1,400	1,600	1,700
Two Chowkidars-cum-labourers (in each farm)	-		650	1,350	1,400	1,450	l	650	1,350	1,400	1,450
	यम	450	2,750	4,830	5,100	5,350	450	2,750	4,830	5,100	5,350
Allowance & Honoraria:	9.9										
D.A., C.A., R.C.A., etc	148	150	750	1,250	1,300	1,350	150	750	1,250	1,300	1,350
T.A	:	100	200	300	400	300	8	200	300	400	300
	I	250	950	1,550	1,700	1,650	250	950	1,550	1,700	1,650
Contingencies:	i										
Seeds, Plants, Manures, Implements etc.	:	1	1,000	200	200	200	1	1,000	200	200	200
Wages of Labourers	:	ı	2,500	4,000	2,000	3,000	1	2,500	4,000	2,000	2.000
Purchase & feed of cattle	:	1	2,000	1,500	700	, 300	ŀ	2,000	1,500	700	200
Misc. Office contingencies and unforcseen expdr.	:	1	200	1,000	1,000	1,000	ļ	200	1,000	1,000	1,000
Furniture	:	300	300	120	1	i	300	300	120	i	Ţ
×		300	6,300	7,120	7,200	7,000	300	6,300	7,120	7,200	7,000

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3rd 4th Yr. Yr. (19) (20) (19) (20) (19) (20) (20) (20) (20) (20) (20) (20) (20	The state of the s											
1st 2nd 3rd 4th 5th 7tr	Particular			23	lizo Hills			X	iker & N.	C. Hills		
			₹ ₹	ξ. Υ.	3rd Yr.	축.	A X	 	Zhd Yr.	7. 3.d	축.	Xr.
### State of Cattle	(1)		(13)	(13)	(14)	(15)	(16)	(17)	(18)	(13)	8	(21)
sett. (13-125) (in each farm) 450 960 1,500 2,000 2,100 450 960 1,500 2,000 and (60-100) (in each farm) — 720 750 1,500 1,600 — 720 750 1,500 1,300 and (60-100) (in each farm) — 670 700 1,300 1,400 — 670 700 1,300 and (60-100) (in each farm) — 670 700 1,300 1,400 — 670 700 1,300 and (60-100) (in each farm) — 670 700 1,300 1,400 — 670 700 1,300 and (60-100) (in each farm) — 670 700 1,300 1,400 — 670 700 1,200 1,200 and (60-100) — 670 700 1,200 1,200 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,200 1,000 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,200 1,400 1,200 1,200 1,400 1,200 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,400 1,200 1,200 1,400 1,200	RECURRING :											
sstt. (75-125) (in each farm) 450 960 1,500 2,000 2,100 450 960 1,500 2,000 2,000 in each farm) — 720 750 1,500 — 720 750 1,500 — 720 750 1,500 — 720 1,500 1,500 — 720 1,500 1,500 — 720 1,500 1,500 — 720 1,500 1,500 — 720 1,50	Pay of Establishment:											
idars-cum-labourers (in each farm)		:	450	960	1,500	2,000	2,100	450	98	1,500	2,000	2,100
idars-cum-labourers (in each farm) — 670 700 1,300 1,400 — 670 700 1,300 1,300 R.C.A., etc 300 1,550 1,800 2,900 3,000 150 600 700 1,200 R.C.A., etc 320 1,850 2,300 3,000 150 600 700 1,200 350 1,850 2,300 3,400 3,500 250 700 900 1,400 bourers 1,000 1,250 1,000 800 — 1,000 6,000 6,000 6,000 contingencies and unforescen expdr 1,800 1,000 800 — 2,000 6,000 6,000 — 3,000 6,000 7,800 9,750 8,800 8,000 8,000 1,000 9,750 1,150 8,800 8,800 9,750 8,800 8,000 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,000 1,150 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,000 1,150 8,000 1,150 8,800 8,000 1,150 8,800 8,800 9,750 8,000 1,150 8,000 1,150 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,150 8,800 8,000 1,15	One Field man (60-100) (in each farm)	:	I	720	750	1,500	1,600	ı	720	750	1,500	1,600
R.C.A., etc	Two Chowkidars-cum-labourers (in each farm)	0		029	700	1,300	1,400	f	029	700	1,300	1,400
R.C.A., etc. 300 1,550 1,800 2,900 3,000 150 600 700 1,200 250 30 50 1,800 2,300 3,400 3,500 250 700 900 1,400 350 1,850 2,300 3,400 3,500 250 700 900 1,400 3,000 1,250 1,000 800 - 1,000 800 1,000 Bourers 3,000 5,000 6,000 - 2,450 5,000 6,000 feed of cattle 2,000 6,000 - 2,450 5,000 6,000 contlingencies and unforescen expdr. - 2,000 1,000 800 - 2,450 7,00 7,00	Allowance & Honoraria:	न्यमे	8.5	2,350	2,950	4,800	5,100	450	2,350	2,950	4,800	5,100
	D.A., C,A., R.C.A., etc	सम	300	1,550	1,800	2,900	3,000	150	99	700	1,200	1,250
i. Manures, Implements etc	т	1	250	300	200	200	200	100	90	200	200	300
the Manures, Implements etc		1	550	1,850	2,300	3,400	3,500	250	700	8	1,40	1,550
— 1,000 1,250 1,000 800 — 1,000 5,000 6,000 6,000 — 2,450 5,000 6,000 — 2,000 7,000 1,000 — 2,450 5,000 6,000 — 2,000 7,000 1,000 — 2,000 650 1,000 — 1,000 800 — 300 — 300 — — 2,500 5,950 7,150 8,800 — 7,800 9,750 8,800 8,400 300 5,950 7,150 8,800	Contingencies:	i										
— 3,000 5,000 6,000 6,000 — 2,450 5,000 6,000 — 2,000 7,000 1,000 — 2,000 650 1,000 — 1,800 1,000 800 — 500 700 800 — 500 500 — 300 — 300 — — 7,800 9,750 8,800 8,400 300 5,950 7,150 8,800	Scods, Plants, Manures, Implements etc.	:	1	1,000	1,250	1,000	2	1	1,000	200	1,000	1,000
2,000 7,000 1,000 1,000 - 2,000 650 1,000 - 1,800 1,000 800 600 - 500 700 800 - 500 500 - - 300 - 300 - - 7,800 9,750 8,800 8,400 300 5,950 7,150 8,800	:	:	ı	3,000	2,000	6,000	9000	l	2,450	2,000	6,000	9,000
- 1,800 1,000 800 600 - 500 700 800 - 500 500 - - 300 - 300 - - 7,800 9,750 8,800 8,400 300 5,950 7,150 8,800	Purchase & feed of cattle	•	ļ	2,000	7,000	1,000	1,000	1	2,000	989	1,000	000,1
	Misc. Office contingencies and unforescen expdr.	:	ļ	1,800	1,000	908	9	1	200	902	800	1,350
9,750 8,800 8,400 300 5,950 7,150 8,800	: :	:	l	8	900	ı	ı	300	ł	300	ţ	ı
		•	1	7,800	9,750	8,800	8,400	300	5,950	7,150	8,800	9,350

Appendix—Assam/D' Contd.

Cost of land Cost							•										
1,000 1,0000 3,500 14,000 1,000 10,000 13,500 14,000 1,000 1,000 1,000 1,000 14,000 1,	(1)							3	3	€	1	9	(3)	1	(6)	(01)	(11)
5,000 5,000 — — — 5,000 5,000 — — — 5,000 1,000 — — — — — — — — — — — — — — — — — —	RECURRING:	:	:	:	:	:	:	1,000	1,0000	3,500	14,000	14,000	1,000		13,500	14,000	14,000
	NON-RECURRING:	j						identi Den									
	Cost of land	:	:	:	:	:	:	2,000	2,000	Î		1	2,000	2,000	i	I	ļ
	Reclamation etc.	:	:	:	:	:	:	2,000		2,500	1,000	1,000	-2,000	2,000	2,500	1,000	1,000
	Construction	:	:	:	:	:	:	17,000	25,000	000'01	2,000	2,000	17,000	23,000	10,000	12,000	12,000
25,000 40,000 26,000 17,000 17,000 25,000 40,000 26,000 17,000	Non-recurring:	:	:	:	:	:	:	24,000	30,000	12,500	1	3,000	24,000	1	12,500	3,000	3,000
						TOTAL	:	25,000	40,000	26,000	17,000		25,000	40,000	26,000		17,000

							(12)	(13)	(13) (14)	(15)	(15) (16) (17)	(17)	(18)	(61)	ĝ.	(21)
RECURRING	:	:	:	:	:	:	1,000	12,000	2,000	5,000 17,000 17,000 1,000	17,000	1,000	000'6	11,000	11,000 15,000	16,000
NON-RECURRING	RRING					6			1							
Cost of land	:	:	:	.:	:	-41	2,000	ı	5,000	1	1	2,000	1	5,000	1	1
Reclamation etc.	: :	:	:	:	:	9	4,000	3,000	5,000	1,000	1,000	2,000	1,000	2,000	3,000	2,000
Construction	:	:'	:	:	:	144	20,000	10,000	20,000	2,000	20,000 • 17,000	17,000	1	17,000	2,000	2,000
Non-Recurring	:	:	.:	:	:	:	29,000	13,000	30,000	3,000	3,000	24,000	3,000 24,000 10,000 24,000	24,000	5,000	4,000
TOTAL	:	:	:	:	:	:	80,000	25,000	45,000	20,000	20,000	2,000	10,000	3,500	20,000	20,000
	GRAND	_	OTAL-Rs. Five lakks	Five 1	akhs											

APPENDIX ASSAMI'E; Detailed Scheme for Agricultural Administration.

Detailed Scheme for Agricultural Administration.	ne Jor A	igricult.	rai Aar	กเกเรเานเ	101			(in	(in Rupees)	
	U-K	U-K-J- Hills						Garo Hills	Hills	
Particulars	1st Y7.	2nd Yr.	3rd Yr.	4th Yr.	Sth Yr.	1st Yr.	2nd Yr.	7. X	th Yr.	Sth Yr.
(1)	(2)	(3)	(4)	(5)	9	e	(8)	6	(10)	(11)
RECURRING :										
Pay of Establishment:	1		1	G						
Agrl. Inspectors in S.A.S. Class I (Rs. 150-350). Three for K.J. Hills and two for each of Garo, Mizo, Mikir & N.C. Hills	5,400	5,700	5,800	000'9	6,100	3,600	3,800	3,900	4,000	4,100
Agri. Demonstrators in S.A.S. Class III (Rs. 75-125 p.m.) 12 for K. J. Hills. 8 for Garo Hills										
8 for Mixo Hills	13,650 14,000	14,000	14,500	15,050	15,500	9,000	9,200	9,400	6,600	9,800
One Upper Division Asstt. (Rs. 175-275)	2,100	2,200	2,300	2,400	2,500	Į	1	1	ī	ı
4 U.D. Asstt. (125-175)	1,500	1,600	1,700	1,800	1,800	1,500	1,500	1,600	1,700	1,800
One attached to each D.A.O.'s Office										
3 L.D. Asstts. (Rs. 60-125) one attached to each S.A.O's office	720	750	780	800	820	Ī	i	١	ľ	1
4 Typists (Rs. 60-125) one attached to each D.A.O's office	720	750	780	9 008	820	720	750	780	008	820
والمراجعة										

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Date in the second seco			Mizo Hills	5			United	Mikir &	United Mikir & N.C. Hills	1 8
ratuculats	lst Yr.	Yr.	¥3.	Yr.	Yr.	13 7, 7, 13	Yr.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Yr.	₹
(1)	(12)	(13)	(14)	(15)	(16)	an	(18)	(61)	(20)	(21)
RECURRING :-	,									
Pay of Establishment:										
Agrl. Inspectors in S.A.S. Class I (Rs. 150—350). Three for K-J Hills & two for each of Garo, Mizo, Mikir & N.C. Hills.	8	3,800	3,900	4,000	4,100	3,600	3,800	3,900	4,000	4,100
Agrl. Demonstrators in S.A.S. Class III (75—125 p.m.) 12 for K-J Hills. 8 for Garo Hills.	4(0)									
8 for Mizo Hills. 8 for Mikir & N.C. Hills	000'6	9,200	9,400	9,600	9,800	000'6	9,200	9,400	009'6	9,800
One Upper Division Asstt. (Rs. 175-275)	ì	ı	1	i	i	ì	1	I	i	1
4 U.D. Asstt. (125—175)	1,500	1,550	1,600	1,700	1,800	1,500	1,550	1,600	1,700	1,800
One attached to each S.A.O's office.										
3 L.D. Asstts. (Rs. 60-125) one attached to each S.A.O's office	720	750	780	800	820	720	750	780	8	870
4 Typists (Rs. 60-125) one attached to each D.A.O's office	02.7	750	780	908	820	720	750	780	800	820

Appendix-Assam 'E'-contd.

				,		9	Ē	9	3		3
139 L.D. Assttscum-Store Keeper (Rs. 60-125) one for each Agrl. Inspector	one for	2,200	2,350	2,450	2,600	2,700	1,500	1,600	1,700	1,800	1,900
29 Grade IV Establishment (Rs. 28—40 p.m.) one for each Agrl. Inspector	one for	1,000	1,050	1,100 1,200	1,200	1,300	019	700	730	750	770
Тотаг		27,290	28,400	29,410	29,410 30,650	31,540	16,990	17,550	18,110	31,540 16,990 17,550 18,110 18,650 19,190	19,190
Allowance & Honoraria:	ese	ide									
D.A., C.A., H.A., etc	기타	8,000	000'6	9,100	9,200	9,200	5,500	5,500	5,600	5,700	5,700
T.A	व ज	2,000	3,000	3,000	3,000	2,500	1,500	2,500	2,500	2,500	2,000
Тотаг	AL	10,000	10,000 12,000 12,100 12,200	12,100	12,200	11,700	7,000	8,000	8,100	7,200	7,700
Contingencies:	•				1						
Misc. Office contingencies	:	1,500	2,050	1,500	1,000	906	1,000	2,000	1,000	200	700
Furniture, Typewriter, etc.	:	3,000	I	ļ	l	ł	2,500	1	ı	i	1
TOTAL	יי די	4,500	2,050	1,500	1,000	000	900 / 3,500	2,000	1,000	200	700
GRAND TOTAL		41,790	42,450 43,010 43,850 44,140 27,490 27,550 27,210	43,010	43,850	44,140	27,490	27,550	27,210	26,350] 27,590	27,590
Rs. 6,50,000											

Appendix-Assam 'E'-contd.

(1)			(12)	(13)	(14)	(15)	(16)	(11)	(18)	(61)	(30)	(21)
139 L.D. Assitscum-Store Keeper (Rs.60-125) one for each Agri. Inspector	per (Rs.60—125)	:.	1,500	1,600	002'1 009'1	1,800	1,900	1,500	1,600	1,700	1,800	1,900
29 Grade IV Establishment (Rs.28—40 p.m.) one for each Agrl. Inspector	.28—40 p.m.)	. :	929	8	730	750	2 20	2019	8	730	750	770
	TOTAL	:	17,710	18,350	18,890	19,450	20,010	17,710	18,350	18,890	19,450	20,010
Allowance & Honoraria:		5										
D.A., C.A., H.A., etc	:	-4.6	7,000	7,000	7,100	7,200	7,200	2,800	5,800	2,900	000'9	6,000
T.A	: :	4.3	3,000	4,000	4,000	000	2,500	1,500	2,500	2,500	2,500	2,000
	TOTAL	14.	10,000	11,000	11,100	11,100 11,200	9,700	7,300	8,300	8,400	8,500	8,000
Contingencies:		1				3		-				
Misc. Office contingencies	:	:	1,000	2,000	1,500	700	820	1,000	2,000	1,000	8	902
Furniture, Typewriter, etc.	: : :	:	2,500	ì	1.	1	١	2,500	i	1	١	ļ
	TOTAL	:	3,500	2,000	1,500	92	820	3,500	2,000	1,000	8	8
	GRAND TOTAL	١:	31,210	31,350	31,490	31,350	30,560	28,510	28,650	28,290	28,450	28,710
Rs. 6,50,000												

APPENDIX—ASSAM/F'
Detailed scheme for Fruit Preservation units at Silchar, Tura & Shillong

Particulars (for six months	1st yr.	2nd yr	. 3rd yı	. 4th yr.	5th yr.	Total
1	2	3	4	5	6	7
. Pay of officers	A.]	Recurring				
One General Manager in the scale of Rs. 400—800	2,400	5,000	5,200	5,400	5,600	23,600
Three Managers in the scale of Rs. 200—500 p.m	3,600	7,600	7,700	7,900	8,000	34,000
One sales Manager in the scale of Rs. 200—500 p.m.	1,200	2,600	2,800	3,000	3,200	12,800
	7,200	15,200	15,700	16,300	16,800	71,200
I. Pay of Establishment						
Three Production Assistants in the scale of Rs. 150—350 p.m.	2,500	5,500	6,000	6,400	7,000	27,400
Three Factory Attendant-enm- Store keeper in the scale of Rs.100200 p.m	1,800	4,000	4,500	4,800	5,000	20,100
Three Electrical Mechanic in the scale of Rs.100—200 p.m	1,800	4,000	4,500	4,800	5,000	20,100
Three Boilerman in the scale of Rs. 75—125 p.m.	1,350	3,000	3,250	3,500	3,750	14,850
One Head Assistant for the office of the General Manager in the Scale of Rs. 150—250 p.m.	900	2,000	2,250	2,400	2,600	10,150
Three Head Asstt-cum- Accountant for the Offices of the 3 Managers in the scale of Rs. 125—175 p.m.	2,250		4,800	5,000	5,300	21,950
One Accountant for the office of the General Manager in the scale of Rs. 125—175 p.m.	750	1,600	1,700	1,800	1,900	7,750
Four Upper Division Asstts. in the scale of Rs. 125—175 p.m.	3,000	6,500	7,000	7,500	8,000	32,000
Four Lower Division Asstts. in the scale of Rs. 60—125 p.m.	1,440	3,000	3,250	3,500	3,750	14,940
Four Typists in the scale of Rs. 60—125 p.m.	1,440	1,500	1,600	1,700	1,800	8,040
Twelve Grade IV Establishment in the scale of Rs. 28—40 p.m.	2,020	2,100	2,250	2,300	2,350	11,120
·	19,250	37,800	41,100	43,700	46;450	1,88,350

1		2	3	4	5	6	7
III. Allowance & Honoraria:							
D.A., C.A., C.L.A. etc.		. 10,000	29,000	21,000	22,000	22,750	9 5,75 0
Travelling Allowance Officers		2 000	5,000	5,000	5,000	5,000	22,000
T.A. of Establishment		. 750	3,000	3,000	3,000	3,000	12,750
Stipend for Trainces	•	. –	9,000	9,000	9,000	9,000	36,000
Contingencies:							
Raw Materials	• •		180,000	180,000	180,000	180,000	720,000
Wages of Labourers		. -	25,900	45,000	45,000	45,000	160,000
Misc. Contingencies	•	1,500	12,000	15,000	10,000	9,000	47,500
Misc. Unforseen Expdr.		1,500	6,000	6,000	3,000	1,500	18,000
Stamps & Stationeries		1,500	3,000	4,700	4,000	4,000	30,700
Furniture		3,000	1,500	3-			4,500
Petty Repairs				5,000	3,000	1,500	9,500
Installation charges		3,000	1,500	-			4,500
Electricity charges, etc.		300	3,000	3,000	3,000	3,000	12,300
TOTAL		10,800	115,000	2,58,700	248,000	244,000	876,500
TOTAL RECURRING		50,000	220,000	352,500	347,000	347,000	1,316,500
Non-Recurring :		VL-370	100	ips.	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
Machineries and Laborate	nrv	हाट्या	वेव नवने				
equipments	•••	300,000	64,000	30,000			394,000
Type-Writers		4,000		_	_	-	4,000
Cost of Land		15,000				_	15,000-
Development of Land		12,000	3,000	1,500		_	16, 50 0
Water Supply		10,000	10,000	-			20,000
Installation of Electricity		9,000	3,000				12,000
Buildings & Quarters		100,000	100,000	16,000	3,000	3,000	222,000
TOTAL NON-RECURRING	••	450,000	180,000	47,500	3,000	3,000	683,500
GRAND TOTAL		500,000	400,000	400,000	350,000	350,000	2,000,000

APPENDIX-ASSAM/'G'

NOTE ON JHUMMING IN N. E. F. AGENCY BY SHRI M. S. SIVARAMAN, I.C.S., ADVISER, PROGRAMME ADMINISTRATION, PLANNING COMMISSION (APRIL, 1957)

- 1. 99% of the total cultivated area is under a system of shifting cultivation locally known as jhuming which involves the cutting of trees and plant growth on steep hill slopes during the dry season, from November to March. The jhumed area is cropped for two seasons and then abandoned for some years to enable natural recuperation of soil fertility to take place and the same area is once again jhumed. Jhuming has been extended to most of the areas where it can be conveniently done and with every increase of population the jhuming cycle naturally tends to become shorter. This in turn affects the level of fertility and results in reduced crop yields and increasing food shortage. The practice involves considerable arduous work during the off-rainy season which also synchronises with the period of other developmental activities like construction of roads, bridle and mule paths, bridges, buildings etc. Movement of officers for local inspection takes place largely in this season and this involves great demand for labour from the local population for carrying baggage and other incidental work. Paradoxically enough every increase in beneficial activity intended to raise the standard of living and span of life in effect affects agricultural production by drawing workers away and thereby depresses the existing low standards.
- 2. It is therefore no exaggeration to say that, in N.E.F.A, life and developmental activities revolve round 'jhuming' for which a practical solution has to be found if food production is to go up without detriment to local development. If the burden of work involved in cutting trees can be lightened and the fertility of the jhumed area improved we should have found the key to the problem of development of backward areas of this type which are inaccessible and will continue to be inaccessible for many years to come.
- 3. As jhuming overshadows every other activity I shall deal at some length with it and with my suggestion for tackling the problem of jhuming in a practical and inexpensive way.
- 4. Jhuming is at once a method of agriculture and a way of tribal life as various communal rites are commonly observed to ensure its success. For instance, as many as ten different rites Rikti, Kombi, Mopun Binyat Amrat Rannam, Eruk Eri, Pipak, Solung, Etor, are observed by the Miniyongs of Siang Division, in connection with jhuming. Food production in NEF Agency depends almost entirely on cultivation of hill slopes and as these slopes are very steep—often 1 in 2 or 1 in 3—there is no other alternative to jhuming in NEF Agency except near the banks of rivers. It will therefore be wrong to decry jhuming while popularising terrace cultivation in the very limited places where this can be done.
- 5. Apart from this, it is a mistake to assume that Jhuming in itself is unscientific land use. Actually it is a practical approach to

certain inherent difficulties in preparing a proper seed bed on steep slopes where any disturbance of the surface by hoeing or ploughing will result in washing away of the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for a proper seed bed are achieved with the help of fire. Seeds are dibbled ahead of the onset of the monsoon so that these may not be washed away and this produces a light cover of protective vegetation which reduces erosion of the soil when the heavy rains begin. In most of the interior areas where communication is not developed and no sufficient land suitable for terracing is available, jhuming alone can be done for the present and as such every effort should be made to improve the fertility of the jhumed land.

- 6. At present the restoration of soil fertility depends mainly on the decay of weeds, grasses and leaves and this level of fertility is greatly reduced in two years of cropping. In order to hasten the restoration of fertility, all weeds and grasses in such areas should be suppressed by leguminous cover crops which fix nitrogen in the soil and the non-descript trees which are not all leguminous should be replaced by leguminous shrubs which can be cut or destroyed easily.
- 7. The above objects can be completely achieved by growing in the third year when the jhumed land is left fallow, perennial red gram (Arhar) which may be dibbled by April, 12 inches apart along the contours of slopes and in rows four feet apart. In every acre about one to two pounds of seeds of Calapagonium Mucunoides, a very fast growing leguminous creeper may be sown when the Arhar is about 3 to 4 weeks old. Calapangonium forms a thick matted growth within two months and prevents soil erosion completely and suppresses weeds and grasses. In 1952-53 I have successfully introduced Calapagonium for putting down weeds and grasses in cocoanut, pepper and citrus gardens in areas of heavy rainfall like Malabar, South Kanara and the agency portions of Vizagapatnam District.
- 8. The Arhar will provide extra food for the people, fix nitrogen in the soil and also improve soil fertility by leaf-fall. Calapagonium dries up in December and January and can be therefore destroyed by fire before sowing other crops. Left to itself the seeds get self-sown and the plants fix very large quantities of nitrogen in the soil. A variation of this method will be to grow perennial Arhar and long duration cowpeas in the Kharif season and a pea or gram crops in the rabi season or perennial leguminous shrubs like Tephrosia Candida or Crotalaria Anagyroides which are found to grow very well in NEF Agency and Assam. All the legumes mentioned above will grow up to 4000 feet and will suit the bulk of the Jhumed lands. For areas above this elevation, the choice may be made from local legumes.
- 9. Though prima facie these suggestions can be implemented even without conducting preliminary experiments, it is desirable that the Agricultural Department should carry out such experiments in selected Jhumed areas so that the tribals are actually convinced of the merits of the recommendations. Yearly soil analysis from the first year of jhuming will throw light on the extent of decline in

soil fertility by cereal cropping and the improvement that takes place from growing legumes and this will help to fix the period of jhum cycle necessary for resuming cereal cultivation.

- 10. While experimenting to determine the minimum duration for a jhum cycle, it should be possible to combine observations on the effect of growing legumes after complete destruction of the trees in a portion of the jhumed area by using an arsenical preparation like the Atlas tree killer. This is a simple method of killing a tree and all that is required is to ring bark a narrow strip and apply the chemical to the Cambium with a brush and the tree including the roots will be killed in due course. When trees are destroyed. in this manner every care should be taken to see that those held sacred by the tribals are not interfered with. As and when the tribals are convinced of the efficacy of the method of restoring soil fertility by growing legumes without waiting for years, it will not be difficult to restrict the use of the chemical to existing jhumed lands with a view to prevent large scale destruction of trees in other areas. Ultimately the shifting of cultivation will stop and the jhumed land will be cultivated from year to year with cereals followed by legumes or a mixed crop of cereal and pulses. There is no doubt some loss of fertility by soil erosion when weeding is done; but this may be offset by incorporating into the soil composts or leaves of legumes at the time of weeding. When communications are more fully developed and marketing facilities are available, it may be possible to grow on the jhumed land valuable perennial crops like pepper, long pepper, rubber etc. and obtain food from outside in exchange. Such crops will help to reduce erosion but the possibilities of growing these crops will have to be shown in the Government
- 11. The suggestions which I have made, if followed, will help to:—
 - (1) improve fertility of the jhumed land and produce more food.
 - (2) Shorten the jhum cycle and thereby enable larger areas to be cultivated in a year.
 - (3) help to grow a pulse crop of arhar, cowpeas etc. while the land is allowed to recuperate.
 - (4) minimise soil erosion.
 - (5) eliminate the cutting of trees and thereby enable the raising of rabi crop and release more labour for other developmental activities.

and

(6) convert the jhumed lands into areas of stabilised, permanent cultivation.

INACCESSIBLE AREAS COMMITTEE REPORT PART II

2. NORTH EAST FRONTIER AGENCY

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NORTH EAST FRONTIER AGENCY

General Observation

The North East Frontier Agency is bounded by Bhutan to the west, the Tibetan and Sikang regions of China to the north and east and Burma to the south-east, and covers an area of 31,438 square miles. Except for the riverain tracts adjacent to the plains approach to the area is restricted to air travel. It has only been with the greatest difficulty that a few strips of level ground have been found for conversion into air fields. Most villages are on steep slopes, with the houses rising in precipitous patterns. The villages are in most areas located on hilltops and are widely scattered. Although the regular monsoon begins in April and continues heavy up to 200 inches in the year, until October, it may rain at any time, turning narrow mountainous paths into nightmare lanes of slippery and leech infested mud. It is easy to visit the headquarters of the Divisions and even a few outposts where airstrips have been made, but it requires a major expedition to penetrate deep into the interior. Elaborate arrangements of portage form a prerequisite to touring, and even for routine work arduous tracks of 20/30 miles can be the order of the day. The countless streams and rivers, which become raging torrents during the rains, have forced the people to devise remarkable cane-bridges which, at their best are marvels of untutored engineering skill. The people are very strong and their ability to work hard is commendable. Both males and females are found working all day in their Jhumlands and fields leaving only very old folks in their houses to look after the children. The local inhabitants, however, are on the whole, fairly contented in day to day needs when compared to ordinary peasants in other parts of India. They have developed an elaborate system of barter, which provides their rural economy with a solid base. To them till recently 'money' was hardly of any economic value. In the interior, the 'wealth' of a tribal or individual is still calculated by the number of Mithuns (Boas Frontalis) one has. The Apa-Tani tribe, however, estimates wealth in terms of land also. Crimes and disputes are generally settled by Village Councils on the basis of compensation. Serious crime is, however, handled by the Administration. Remarkable enough there are no tenants, or lawyers and only a handful of merchants in areas bordering the plains. Justice is quick and easy. The spirit of co-operative effort can be an object lesson to 'civilized' populations. Since Independence a fresh approach to their problems and determined effort by devoted Government personnel dedicated to the uplift of NEFA's tribal population, have created a certain degree of confidence and enthusiasm amongst the local people and a carefully planned and patiently implemented policy will in due course make these tribes active partners in the Nation's life.

2. Before Independence, these tribes, mostly left to themselves in prolonged seclusion, had created a way of thinking which will take time to develop the necessary stamina to weigh the value of developmental programmes in their so called 'civilized' context.

- 3. NEFA presents a special problem when compared to other inaccessible areas in India. It would be worthwhile to quote the Prime Minister in order to appreciate the nature of the problem which is posed by the special conditions prevailing in these areas:—
 - "I am alarmed when I see—not only in this country but in other great countries too—how anxious people are to shape others according to their own image or likeness and to impose on them their particular way of living. We are welcome to our way of living, but why impose it on others? This applies equally to national and international fields. In fact, there would be more peace in the world if people were to desist from imposing their way of living on other people and countries.
 - I am not at all sure which is the better way of living, the tribal or our own. In some respects, I am quite certain their's is better. Therefore, it is grossly presumptuous on our part to approach them with an air of superiority, to tell them how to behave or what to do and what not to do. There is no point in trying to make them a second-rate copy of ourselves".
- 4. Consequently the policy of Government of India boils down to a course of action which admits that, although it is neither possible nor desirable to let life and economic conditions in tribal areas be permitted to drift indefinitely in their present form, every caution should be taken against haste, over administration, and the import of outsiders above the minimum essential number. The report of this Committee has also, therefore adopted a course in compliance of this policy pattern. In our recommendations we have kept in mind the local genius of the tribals which should earn respect, sethat such tribal traditions which are healthy are not discouraged.
- 5. We have also been careful that our recommendations may not infringe with local customary rights over lands and forests and our proposals necessitate only the very minimum technical staff from outside tribal territory. Our recommendations contain schemes which are simple in nature and a few in number, and not divergent in any extreme form from existing agricultural practices of the area.
- 6. In the pre-independence days, the tribals received little or no Governmental attention, and whatever attention was given, was mostly in times of emergency or lawless-ness and in the form of punitive action. Tribals in foothills areas have not remained free from exploitation by the businessmen of the plains. As such their past experience of 'civilization' is somewhat bitter. The Committee, therefore, are careful that their recommendations are in keeping with the policy being adopted by the NEFA Administration.
- 7. The Committee are of the opinion that any new schemes of a radical nature, or an immediate acceleration of existing schemes, will disturb the accepted pattern of administration and development programmes in NEFA in the context of the very special conditions that prevail locally.

- 8. Such progress of existing schemes which is being held up due to non-availability of technical personnel, is not a healthy reflection, and indicates a lack of emphasis on very important aspect of development work in inaccessible areas and can be brought upto date within a minimum period of time provided due attention is given to the Committee's recommendations in its General Report (para. 1.38). The Committee agree with the view that it is not possible for the Agency Administration to attempt a fresh or accelerated pattern of development in their area, with the quantity and quality of existing staff and resources. Such a course is also not advisable due to the accepted policy which governs our approach while dealing with NEFA. Our recommendations are, therefore, broad and general in nature for guidance within the framework of existing plans. Unlike, as for other areas under report, very few new schemes are being recommended in a particular way. The question of any extra financial implications, therefore, does not arise.
- 9. Lately this area has assumed increased strategic importance at international level. As such it is not possible for this Committee to estimate to any reliable extent what the food requirements of the area will be, especially estimates pertaining to stocks which are air-lifted, as their quantity will always depend upon the number of service, security and other personnel posted in the area.
- 10. Due to special circumstances prevailing in NEFA, it was not considered necessary for the full Committee to undertake the tour. Under the advice of the Ministry of External Affairs only a team consisting of the Chairman, and two members visited the area.
- 11. The Committee undertook a tour of the Subansari Division according to the programme chalked out by the NEFA Administration. During the course of the visit, it was felt that a solitary visit to the Subansari Division would not be enough for the Committee to form a detailed assessment of local conditions and problems as a whole. As such it was decided to arrange a subsequent visit to the Headquarters of NEFA for detailed discussions with the Political Officers and Agricultural staff of the different divisions of NEFA. Accordingly, a meeting was held at Shillong on the 10th September, 1959.
- 12. As regards the nature and degree of inaccessibility of problem areas in NEFA, the Committee had more than a fair experience of the difficult local terrain, and their sixty-eight miles trek to Palin and back provided a first hand knowledge of local difficulties in communications and unexpected rainfall made the Committee's experience all the more authentic.

Existing Food Position

13. The figures already shown in para. 1.10 of Part I General Report pertaining to the area, population, present output of foodgrains and estimated annual requirements of foodgrains were subsequently amended by the NEFA Administration when the Committee

visited the headquarters of NEFA for discussions. The revised figures according to them are as under:—

1.	Area	••		• •	• •	• •	31,438 Sq. miles
2.	Population	••					4.5 lakhs
3.	Inaccessible a	area uno	der cultiv	ation	• •		1,52,048 Acres
4.	Present outpu	it of foo	odgrains	• • •	• •		60,270 tons
5.	Estimated an	nual re	quiremen	ts of foo	dgrains		1,00,000 tons.
6.	Deficit, if a	ny			••		39,730 tons.

- 14. The food problem, as tackled by the Government, seems to be mainly confined to feeding the administration and service outposts located all over NEFA. The issue of any foodgrains to the local tribal population was found necessary only on some solitary occasions during floods or drought. In actual fact, the tribals are not 'civilised' enough to beg and instead supplement their consumption of foodgrains with their own ingenuity, efforts and determination. The tribal grows only 3-4 months of his annual requirements of foodgrains. The rest he makes up with his ingenuity, knowledge of jungle craft, and hunting; thus supplementing his food with wild game, tubers, jungle roots, bamboo shoots, herbs, dried fish, millet and rice beer. He is amazingly fit and his diet shows better balance than what is found elsewhere in the country. As compared to an average Indian peasant, his diet contains 16 per cent more calories, 17 per cent more protein, 70 per cent more calcium and 33 per cent vitamin 'A'. But the problem of insufficiency in the actual quantity of foodgrains is prevalent.
- 15. Maize and root crops where popular, are being encouraged and necessary help is being given to the tribals for increasing the production of these crops. Similarly, improved variety of millets are being imported and distributed to the local cultivators to help them increase their indigenous production.
- 16. The Committee considered the recommendation that sufficient supplies should be readily made available with subsidised prices kept low enough to be attractive in existing markets. It could be argued that the presence of foodgrains in an easily available form, may gradually tempt the tribals to use more foodgrains, without creating any impression of spoon-feeding. But there arises a problem of land route communications as existing air droppings are not even sufficiently available for meeting existing requirements of Government personnel, both civil and military, prepared over different outposts all over the Agency. It is also feared that providing foodgrains at subsidised rates in the interior will actually result in discouraging the local population from intensifying their agricultural activities, and in the long run they may become dependent on imported foodgrains and thereby lose their great quality of self-reliance and self-confidence. Experience has also shown that in areas where impact of outside money has taken place local manpower is inclined to

ignore their cultivation in favour of ready cash which they can earn by manual work.

17. As already stated, air dropping is confined to feed Service and Administrative outposts located all over NEFA. During the calendar year of 1958, airdropping amounted to 5.095 tons and during 1959 approximately 10,000 tons were airdropped. Transportation charges were paid @ Rs. 750 per hour per sortie of 7,300 lbs. A considerable sum, therefore, was incurred on transportation, and this, in the opinion of the Committee, can only be avoided if roads or mule tracks connecting the plains to the hills and within hilly interior are built up.

Communications

- 18. At the outset, lack of communications poses to be the biggest problem. There are outposts which are often more than two weeks march from headquarters, and marches of several days even for routine matters, are not uncommon. The time and money wasted present a serious problem to any developmental programme. The difficulties of an exceedingly hazardous terrain are further aggravated by wet weather conditions which worsen the conditions of inaccessibility in remote areas.
- 19. The present road programme, including that which was entrusted to the Army, is making good progress and the tribals lose little time to make ample use of these roads for trade and marketing. This indicates that once amenities are provided without any suggestion of 'imposition' of new patterns of life, the tribals themselves will take modern amenities in their normal strides towards progress.
- 20. As already stated in paras 1.21 and 1.22 of the General Report, the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock carts, mule tracks or footpaths. In the case of NEFA, this is all the more important as the Committee's recommendations for Agricultural and Horticultural programmes will need a special coordinated programme with Communications.
- 21. In addition to construction of bridle paths, porter tracks in the interior, the First Five Year Plan aimed at the completion of some approach roads to the Divisional Headquarters. The Administration attached some importance to the development of communications in the Agency and in the First Five Year Plan an expenditure of Rs. 71.59 lakhs was incurred on such subjects.
- 22. The Committee would reiterate the importance of proper maintenance of existing roads as mentioned in their General Report (Paras 1.21 to 1.28).
- 23. Though it is the intention of the Administration to connect all Administrative Centres in the interior, by roads or mule paths, it will take a long time to achieve such an objective.

24. During the First Five Year Plan, the following all-weather and fair weather roads, bridle paths and porter tracks against an overall target of 4.366 miles were completed:

(a) all-weather roads	 	 ·		• •	 229	Miles
(b) fair-weather roads	 ••	 ••	• •	•••	 226	,,
(c) bridle paths	 	 	••		 256	••
(d) mule paths	 • •	 			 207	••
(e) porter tracks	 	 • •			 2,541	,,
			TOTAL		3,459	,,

- 25. During the Second Five Year Plan, it is proposed to complete a total of 5,160 miles of roads, mule paths, and porter tracks including improvement of some roads and tracks.
- 26. An amount of Rs. 144.87 lakhs has so far been spent on constructions of roads and tracks and the physical targets achieved so far are given below:—

			St.			То	TOTAL		4,383 Miles	
(e) Improvement	t of tr	acks	-11		Ŋ	٠٠ .	••	• •	199	,,
(d) Improvemen	t of re	oads	E.00		<i>69</i>			. ••	76	•
(c) Porter track	••	• •					• •	••	2,878	,,
(b) Mule Paths							• •	••	576	,,
(a) Roads		••	EN	Legistania Legistania	23	••	• •	• •	654	Miles

- 27. The Committee were informed that in Third Five Year Plan it is the intention to accelerate the pace of construction of roads and mule paths compatible with the local manpower and other resources.
- 28. Due to difficult terrain and paucity of local labour, the pace for construction of roads and mule paths naturally has its limitations. The hills of NEF Agency being geologically very young, it takes a long time for newly constructed roads to stabilise, and each year considerable manpower has to be deployed for the maintenance of newly constructed roads. Frequent land slides in these areas would require efforts to be concentrated on the maintenance of roads in NEFA. Even the porter tracks and bridle paths require constant clearance and maintenance, because during the monsoon period paths get immediately covered with thick vegetation and shrubery if left unattended even for 3/4 weeks. These are the basic difficulties in opening up and maintenance of new roads.
- 29. In the meantime, airfields have been completed where Dakotas and small aircraft like Otters can land and it is hoped that Otter service will be able to carry essential supplies like seeds to far-flung areas where local multiplication and its use can result in intensification of agricultural practices.
- 30. The working season for road construction is just about 5 months in a year from October to the end of February and coincides

with the peak period also for other works like reclamation, land development, minor irrigation, and other allied agricultural operations. There being paucity of population, the same manpower has to be utilised for separate works, which result in lack of concentrated effort and division of labour and time. The import of outside labour brings other complications and difficulties in its wake, including food supplies to be airlifted and the general undesirability of the presence of outsiders in large numbers.

31. The Committee, however, are strongly of the view that while programmes for the construction of new approach roads, mule tracks, and bridle paths be taken up vigorously, special efforts should be organised to maintain existing communications. Opening of new airfields in remote areas enabling landing of small planes may also be considered. The Committee's recommendations in this regard may be examined in the context of the prevailing political situation in the country's border areas.

Agriculture Research and Demonstration

- 32. As already stated in para 1.39 of Part I—General Report, the result of research conducted in 'billiard table' conditions cannot apply to areas with problematical climate and soil, and that the solution lies in conducting special research on suitable commodities under actual conditions prevailing in that area. The North-East Frontier Agency poses a variety of problems in the agronomical field. Local cultivators have a large number of crops which they have been growing for generations, and before they can be convinced or persuaded to replace them by improved varieties of other areas, evaluation of local varieties is essential. Similarly, the Administration is not quite certain about the behaviour of imported seeds and plants brought to the Agency which also have to be studied. The Committee, therefore, recommend that, in order to try out various varieties of seeds and plants, there should be a suitable number of research centres with an adequate staff of technical personnel.
- 33. The Committee are also of the opinion that demonstrations will be the most successful method for any extension programme in NEFA. Well planned demonstration units should be set up in Jhum areas where, without any suggestion of imposition, the Agriculture Department technicians should carry on scientific jhuming cultivation and produce successful and remunerative results. The tribal cultivator after seeing the success of such experiments will himself fall into step with new methods.
- 34. Similarly in areas where an appreciable amount of wet cultivation land is available, demonstration farms for paddy cultivation should be started. The same applies to orchards, cash crops and fisheries.

Lack of Technical Staff

35. In the past, various development schemes could not be implemented for want of technical staff and the Administration has had to surrender a large part of their yearly financial allotments. Life is hard in NEFA and at present not enough incentive is available to attract suitable technical personnel to join the Agency service. L2FA—6

It was brought to the notice of the Committee that shortage of technically qualified staff in the Agency has been the main set-back in achieving the targets of the Second Plan. Upon examination of Plan achievements, it was found that there had been shortfall in respect of the following schemes:—

- 1. Minor Irrigation
- 2. Supply of tools
- 3. Supply of work animals
- 4. Horticultural Development Centres
- 5. Livestock Village Upgrading Centres
- 6. Livestock Multiplication Centres
- 7. Poultry Development Centre
- 8. Opening of Veterinary Dispensaries.
- 36. As many as eight posts of Agriculture Inspectors and five of Veterinary Assistant Surgeons could not be filled by the Administration through lack of response from suitable technical personnel. The very purpose of development schemes is defeated when left un-implemented due to non-availability of technical staff. The Committee sensed a feeling of anxiety on this subject in the ranks of the Agency's administration, and, therefore, strongly recommend the implementation of the proposals already outlined by them in the Part I—General Report (Paras 1.36 and 1.37) with regard to postings, service conditions and selection of service personnel etc. in NEFA, and other such areas. The Committee also recommend that existing vacancies should be filled up immediately and staff put in position as otherwise progress of developmental schemes will receive a permanent set back.
- 37. Details of the Committee's recommendations with regard to Schemes for Agricultural development and research are mentioned later in this report.

Fisheries

- 38. Fish is an important dietary item for the people of NEFA. Fishing is also a ceremonial ritual both as a form of sport and tribal custom.
- 39. Originally, there was no plan provision for Pisciculture but in 1958-59, Rs. 16,000 were spent on the Pilot Projects and during the current financial year there is a provision of Rs. 47,500 under the normal budget and Rs. 19,000 under N.E.S. By the end of the current financial year, there will be two fishery products. These Fishery and Demonstration ponds will in due course serve as Multiplication Centres for distribution to other areas. The first consignment of 300 Mirror Carp fingerlings was flown to Ziro in 1959 with successful results. Similarly 2,000 Major Carp fingerlings were flown to Along from Dibrugarh. For low altitude areas, Major Carp will be imported from the neighbouring areas of Assam or Calcutta and the Administration has already arranged to buy necessary equipment like oxygen cylinders for long distance transport of fingerlings.

- 40. Some local practices of catching fish which result in a large scale and indiscriminate destruction of fish are being discouraged and as soon as some more trained staff is available, arrangements for development of fresh water fishery will also be undertaken.
- 41. At Passighat and Kabu a programme of constructing and stocking of tanks has also been reported as successful and one special feature of the scheme was that the people had contributed half of the excavation cost of ponds in the form of labour. Some ponds have also been constructed on 'self-help' basis at Reru, Mirmir and Mirem.
- 42. Surveys and collection of data reveal that derelict ponds and swamps in NEFA could be profitably utilised for Pisciculture. Experience so far gained proves that both Major Carps and Mirror Carps can be cultivated.
- 43. A nominee of the Administration is undergoing Fishery Training at Inland Fisheries Training Centre, Barrackpore, who will be completing the course by February, 1960, when he will be appointed as Fisheries Inspector. Two stipends have been sanctioned by the Administration for six months' training in Fishery at Assam Fishery Training Centre, Joysagar, for Junior Fishery Staff. It is proposed to have one Fishery Demonstrator for each Fishery Scheme sanctioned.
- 44. The creation of a post of Superintendent of Fisheries, NEFA, will be taken up next year.
- 45. The Committee recommend that (1) some high altitude varieties from other parts of the country may be tried in the upper regions of the Administration, (2) another officer for training in fisheries may be deputed as soon as the present nominee comes back, and such a rotation may be continued till the fisheries organisation in NEFA is sufficiently trained and (3) expeditious action may be taken to recruit a suitable and experienced officer for the post of Superintendent of Fisheries.

Land Reclamation

- 46. Unfortunately, taking an overall picture into consideration, there is not much land available which can easily be converted into permanent wet rice cultivation. The following difficulties are posed in the way of any large scale land development programmes:—
 - (a) Difficult terrain and steep gradients make it difficult to open up new areas for large scale terracing.
 - (b) In certain places even if a compact block of cultivable land is available, lack of manpower comes in the way of effective development. It is not advisable to bring cultivators to such areas by shifting populations from neighbouring villages as this will be too risky a venture and very likely unleash inter-tribal tensions. Though the nature of land ownership is individual, overall ownership vests in the village or clans as a whole. Any intrusion on such lands is not advisable for obvious reasons.
 - (c) For any large scale development, adequate response from the people is very necessary. In NEFA, due to special

circumstances any scheme has to be launched carefully and the progress maintained at a very patient pace. At the same time it is encouraging to note that people are steadily responding to the extension of permanent cultivation, which has resulted in the development of 11,229 acres of permanent cultivation in First Five-Year Plan and 8,368 acres in the first three years of this plan period including Development Blocks.

47. Taking all these aspects into consideration, the Committee recommend that the land development schemes in hand may be implemented steadily with a view to achieving the targets already fixed. The Committee also recommend that as and when existing targets are achieved, further land development work may be taken in hand in the light of experience gained.

Minor Irrigation

48. The present schemes taken up by the Administration amount to Rs. 1.08 lakhs. The Committee, however, feel that the potentialities available in the area are quite good. Although the Committee are not in a position to recommend any sudden expansion of minor irrigation programmes, they recommend that a careful survey of all available resources may be made as early as possible. This will save time in the implementation of new schemes in future programmes by when it can be expected that the tribal cultivator will become more irrigation minded.

Jhum Cultivation

- 49. Jhum cultivation is the most widely followed method for agriculture. As already recommended by the Committee in Para 1.55 of their General Report, whatever material exists in the way of scientific research in Jhum Cultivation should be converted into definite plans for implementation in areas where Jhum Cultivation is practised.
- 50. There is, however, considerable room for improved practices in Jhum areas. The Committee endorse the views expressed by Shri M. S. Sivaraman, I.C.S., Adviser, Programme Administration, Planning Commission, in his note of April, 1957 (Appendix NEFA/'A'). It is recommended that the suggestions contained therein should be followed in right earnest.
- 51. The Committee also recommend that some Jhum land should be taken over by Government for scientific cultivation for demonstration purposes to tribal villagers without giving them the least impression of 'imposition' by Government. It is hoped that seeing better yields in adjoining Government demonstration units will persuade local cultivators to adopt better techniques.
- 52. There is considerable scope for the cultivation of Hybrid Maize. A beginning has already been made to cultivate hybrid maize and other crops like citrus, pine-apples and cashew. Forty-four maunds of hybrid maize seed was distributed in first three years of Second Five-Year Plan and it is proposed to distribute 60 mds.

in the fourth year and 80 mds. in the final Plan year. Cultivators are also encouraged to select quality seeds from their harvest for multiplication purposes and the arrangement has shown encouraging results in almost all areas of NEFA. Maize seed has also been imported from Shillong and is quite popular with local cultivators. 376 mds. of Shillong maize seed was distributed during the first three years of the Plan. 250 mds. will be distributed in the fourth year. The Committee would again emphasize the vast potentialities for the development of Hybrid Maize in this area. The distribution of seedlings, and seeds for cash crops is given below:—

,	1956-57	1957-58	1958-59	Total
(a) Sugarcane Setts.	17,749	10,500	39,500	67,749
(b) Fruit Seedlings	3,525	2,693	11,561	17,779
(c) Potato (in mds.)	826	868	1,380	3,074

- 53. Tapioca of the local variety has already become popular in most of the Divisions and in the Tirap Frontier Division different varieties of tapioca are found which are considered suitable for other areas also. In Siang Frontier Division, Madras variety of tapioca was imported and has been locally multiplied with good results. Tapioca is used for feeding pigs and the local population also prepare beer from it. In other areas where tapioca is not available, substitute of tapioca like 'Yam' and 'Kochu' are found in abundance. Tapioca is, however, not considered a cash crop by the local cultivators.
- 54. The potato has become very popular throughout the Agency area and during the first three years of the plan 3.074 mds. of potato seeds were supplied to different Divisions. It is proposed to distribute 992 mds. during the fourth year. Sugarcane, mustard, chillies and ginger are also gaining ground in some areas.
- 55. As regards fruit seedlings 17,779 were distributed during the first three years and during the fourth year 28,804 have already been distributed and it is proposed to distribute 3,000 more before the close of financial year. Though it is desired to step up plantation of fruit seedlings in the interior, it is not possible to do so at this stage because sufficient quantity of seedlings is not readily available from the neighbouring State of Assam and transportation from other areas is difficult. Eight fruit nurseries have been organised and it is expected that within three years the Administration will be able to meet a part of their requirements.
- 56. The Forest Department of the Administration is also experimenting on rubber plantation, cashew-nut, coca, cardamom, black pepper, coffee, ruowlfia serpentina and some other medicinal plants.
- 57. In the opinion of the Committee, NEFA is a very fertile area with considerable potentials not only for hybrid maize but for many cash crops like citrus, pine-apple, cashew and tapioca etc., as well. As such the Committee recommend that the scope of cultivation of the cash crops mentioned above should be enlarged as there is considerable scope for intensification. The plantation of such crops

- should, therefore, be taken in hand. Apart from the difficulties experienced in obtaining the seedlings from Assam, considerable expenditure is involved on transportation. Keeping all this in view, the Committee recommend that horticultural centres should be established all over the Agency.
- 58. During the Second Plan, two Horticultural Centres, one in Kameng Frontier Division and another in Passighat, are being started and 7 nurseries are being converted into 5 acre Horticulture gardens. Such centres may be expanded all over the Agency during the period of the Third Five-Year Plan.

Extension of Potato Cultivation

- 59. The demand for seed potatoes in the Agency is steadily increasing. With a view to extending the cultivation of potatoes, it is recommended that potato seeds storages in high altitude should be opened to enable the Administration to obtain the seeds locally from the interior and save the avoidable transportation charges all the way from Shillong to the interior. This will also give the necessary incentive to the cultivators for growing potatoes both for seeds as well as table purposes. During the first three years of the Second Plan, the Administration had distributed 3,074 mds. of seed potato. The target for the remaining two years is 1,770 mds. which is hoped to be accomplished. During the fourth year, it is intended to start 3 storage godowns in the high altitude areas of the Agency followed up by 6 more during the last year of the Second Five Year Plan. Lifting of seed potatoes in the interior of the hills every year is a problem. The required quantities cannot always reach the destination in time for sowing.
- 60. Another way, therefore, to solve this problem is to start a seed producing farm mainly for potatoes which will help the Administration in meeting atleast a part of their requirements within the Division. The Committee recommend that a Model Scheme as appended (Appendix-NEFA/'B') should be started at Yazali, between Kimin and Ziro. After the experience is gathered in the production of seed potatoes at Yazali, the particular scheme should be followed in other Divisions as well.
- 61. The scheme would involve an estimated recurring expenditure of Rs. 0.84 lakh.

APPENDIX-NEFA 'A'

NOTE ON JHUMING IN N.E.F. AGENCY BY SHRI M. S. SIVA-RAMAN, I.C.S., ADVISEB, PROGRAMME ADMINISTRATION, PLANNING COMMISSION (APRIL, 1957).

- 1. 99% of the total cultivated area is under a system of shifting cultivation locally known as jhuming which involves the cuttings of trees and plant growth on the steep hill slopes during the dry season, from November to March. The jhumed area is cropped for two seasons and then abandoned for some years to enable natural recuperation of soil fertility to take place and the same area is once again jhumed. Jhuming has been extended to most of the areas where it can be conveniently done and with every increase of population the jhuming cycle naturally tends to become shorter. This in turn effects the level of fertility and results in reduced crop yields and increasing food shortage. The practice involves considerable arduous work during the off-rainy season which also synchronises with the period of other developmental activities like construction of roads, bridle and mule paths, bridges, buildings, etc. Movements of officers for local inspection takes place largely in this season and this involves great demand for labour from the local population for carrying baggage and other incidental work. Paradoxically enough every increase in beneficial activity intended to raise the standard of living and span of life in effect affects agricultural production by drawing workers away and thereby depresses the existing low standards.
- 2. It is, therefore, no exaggeration to say that, in N.E.F.A., life and developmental activities revolve round 'jhuming' for which a practical solution has to be found if food production is to go up without detriment to local development. If the burden of work involved in cutting trees can be lightened and the fertility of the jhumed area improved we should have found the key to the problem of development of backward areas of this type which are inaccessible and will continue to be inaccessible for many years to come.
- 3. As jhuming overshadows every other activity I shall deal at some length with it and with my suggestion for tackling the problem of jhuming in a practical and inexpensive way.
- 4. Jhuming is at once a method of agriculture and a way of tribal life and various communal rites are commonly observed to ensure its success. For instance, as many as ten different rites Rikti, Kombi, Mopun Binyat, Amrat Rannam, Eruk Eri, Pipak, Solung, Etor, are observed by the Miniyongs of Siang Division, in connection with jhuming. Food production in N.E.F. Agency depends almost entirely on cultivation of hill slopes and as these slopes are very steep—Often 1 in 2 or 1 in 3—there is no other alternative to jhuming in N.E.F. Agency except near the banks of the rivers. It will therefore be wrong to decry jhuming while popularising terrace cultivation in the very limited places where this can be done.
- 5. Apart from this, it is a mistake to assume that jhuming in itself is unscientific land use. Actually it is a practical approach

to certain inherent difficulties in preparing a proper seed bed on steep slopes where any disturbance of the surface by hoeing or ploughing will result in washing away of the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for a proper seed bed are achieved with the help of fire. Seeds are dibbled ahead on the onset of the monsoon so that these may not be washed away and this produces a light cover of protective vegetation which reduces erosion of the soil when the heavy rains begin. In most of the interior areas where communication is not developed and no sufficient land suitable for terracing is available, jhuming alone can be done for the present and as such every effort should be made to improve the fertility of the jhumed land.

- 6. At present the restoration of soil fertility depends mainly on the decay of weeds, grasses and leaves and this level of fertility is greatly reduced in two years of cropping. In order to hasten the restoration of fertility, all weeds and grasses in such areas should be suppressed by leguminous cover crops which fix nitrogen in the soil and the non-descript trees are not all leguminous should be replaced by leguminous shrubs which can be cut or destroyed easily.
- 7. The above objects can be completely achieved by growing in the third year when the jhumed land is left fallow, perennial red gram (Arhar) which may be dibbled by April, 12 inches apart along with contours of slopes and in rows four feet apart. In every acre about one to two pounds of seeds of Calapagonium Mucunoides, a very fast growing leguminous creeper may be sown when the Arhar is about 3 to 4 weeks old. Calapagonium forms a thick matted growth within two months and prevents soil erosion completely and supresses weeds and grasses. In 1952-53 I have successfully introduced Calapagonium for putting down weeds and grasses in cocoanut, pepper and citrus gardens in areas of heavy rainfall like Malabar, South Kanara and the agency portions of Vizagapatnam District.
- 8. The Arhar will provide extra food for the people, fix nitrogen in the soil and also improve soil fertility by leaf-fall. Calapagonium dries up in December and January and can be therefore destroyed by fire before sowing other crops. Left to itself the seeds get self-sown and the plants fix very large quantities of nitrogen in the soil. A variation of this method will be to grow perennial Arhar and long duration cowpeas in the Kharif season and a pea or gram crops in the rabi season or perennial leguminous shrubs like Tephrosia Candida or Crotalaria Anagyroides which are found to grow very well in N.E.F. Agency and Assam. All the legumes mentioned above will grow upto 4,000 feet and will suit the bulk of the jhumed lands. For areas above this elevation, the choice may be made from local legumes.
- 9. Though prima facie these suggestions can be implemented even without conducting preliminary experiments, it is desirable that the Agricultural Department should carry out such experiments in selected jhumed areas so that the tribals are actually convinced of the merits of the recommendations. Yearly soil analysis from the first year of jhuming will throw light on the extent of decline in soil fertility by cereal cropping and the improvement that takes

place from growing legumes and this will help to fix the period of jhum cycle necessary for resuming cereal cultivation.

- 10. While experimenting to determine the minimum duration for a jhum cycle, it should be possible to combine observations on the effect of growing legumes after complete destruction of the trees in a portion of the jhumed area by using an arsenical preparation like the Atlas tree killer. This is a simple method of killing a tree and all that is required to ring bark a narrow strip and apply the chemical to the Cambium with a brush and the tree including the roots will be killed in due course. When trees are destroyed in this manner every care should be taken to see that those held sacred by the tribals are not interfered with. As and when the tribals are convinced of the efficacy of the method of restoring soil fertility by growing legumes without waiting for years, it will not be difficult to restrict the use of the chemical to existing jhumed lands with a view to prevent large scale destruction of trees in other areas. Ultimately the shifting of cultivation will stop and the jhumed land will be cultivated from year to year with cereal followed by legumes or a mixed crop of cereal and pulses. There is no doubt some loss of fertility by soil erosion when weeding is done; but this may be offset by incorporating into the soil composts or leaves of legumes at the time of weeding. When communications are more fully developed and marketing facilities are available, it may be possible to grow on the jhumed land valuable perennial crops like pepper, long pepper, rubber etc., and obtain food from outside in exchange. Such crops will help to reduce erosion but the possibilities of growing these crops will have to be shown in the Government farms.
- 11. The suggestions which I have made, if followed, will help to:—
 - (1) improve fertility of the jhumed land and produce more food;
 - (2) shorten the jhum cycle and thereby enable larger areas to be cultivated in a year;
 - (3) help to grow a pulse crop of arhar cowpeas etc., while the land is allowed to recuperate;
 - (4) minimise soil erosion;
 - (5) eliminate the cutting of trees and thereby enable the raising of a rabi crop and release more labour for other development activities;

and

(6) convert the jhumed lands into areas of stabilised, permanent cultivation.

APPENDIX—NEFA/B Total Area-50 Acres

NON-RECURRING	1st yr.	2nd yr.	3rd.yr.	
	15 Acres	15 Acres	20 Acres	
A. General				
1. Land	Fre	c		
2. Reclamation & Dev. @ Rs. 250 per acre including felling of trees and removal of stumps	3,75	50 3,75	5,000	
moto interest arrigation project	(i) 50 (ii) 1,50		2,000	
4. Animal Power @ Rs. 550 per pair	1,65	50 1,100	550	
5. Tools & Implements	1,00	0 500	500	
6. Furniture L.S	50	0 100	100	
B. Buildings:	`			
One Quarter for Farm Manager Type IV HT as per P.W.D. specification				
Quarters for 2 fieldmen and one LDA-cum-Store- keeper Type III HT as per P.W.D. specifications				
3. A Barrack for 10 Malies—2 Units of 5 each Type I HT as per P.W.D. specifications	Fatim	ate of the	Expenditur	
4. Bullock shed for 6 pairs as per P.W.D. specifications HT	not		by NEFA	
5. Labour shed for 25 Nos.—Barrack Type—HT	}			
6. Storage Godown with Racks with the expanded material-cum-implement shed (30' × 20' & 16' × 12') HT as per P.W.D. specifications				
 Farm Manager's Office (16' x 12') HT as per P.W.D specifications. 				
8. I Grade IV-Type I-HT as per P.W.D. specification.				
Recurring: A. Establishment:				
(a) Pay 1. Pay of Farm Manager-1 & 2. Pay of Fieldmen 2 SP 3. Pay of LDA- cum Storekeeper-1	4.00	78 8,5 5	6 8,7 85	
4. Pay of Grade IV- 1	4,27		8 2,087·88	
(b) Allowances & Honoraria	1,022 · 9			
TOTAL	5,300.9	4 10,001.8	8 10,872 · 8	

NON-RECURRING	1st yr.	2nd yr.	3rd yr.
	15 Acres	15 Acres	20 Acres
B. Contingencies (R.E.)			
1. Wages of Contingency Mali @ Rs. 72.50 nP. (i) 1959-60-4 Nos. 1960-61-4Nos. 1961-62—2 Nos.	1,740	6,960	8,700
2. Cultivation charges for the Farm @Rs. 150 per acre for single cropping and Rs. 50 per acre extra for 50% area under double cropping	2,625	5,250	8,750
3. Feeds and Feedings @ Rs. 150 per animal per day-schedule 3 srs. per animal	1,650	5,10	6,100
4. Seeds (Potatoes and other Misc. seeds)	4,000	250	250
5. Manures & Fertilizers	500	100	1,250
6. Plant Protection equipments and materials	1,000	500	500
7. Unforeseen charges	500	500	500
GRAND TOTAL	12,015	19,560	26,050
Grand Total of A&B	Rs. 8	4,398	



INACCESSIBLE AREAS COMMITTEE REPORT PART II

3. RATNAGIRI DISTRICT (BOMBAY STATE) (NOW MAHARASHTRA)



DEPARTMENT OF AGRICULTURE

RATNAGIRI DISTRICT—(BOMBAY STATE)

General observations

The Ratnagiri District is a part of the Konkan strip running north to south on the Western coast of India, formed by a narrow belt of uneven lands lying between the Arabian sea on the west and the Sahyadri Hills on the east. The District is about 300 miles in length and has a miximum width of about 45 miles only. The Bankot creek in the north separates this district from the Kolaba District and the Terekhol creek in the South separates it from Goa. The population has increased from 4.63 lakhs according to the census returns of 1820 to 17.12 lakhs in 1951, out of which 7.70 lakhs are males and 9.42 lakhs are females. The population is overwhelmingly rural: 16.1 lakhs of people living in 1,553 villages as against 1.01 lakhs residing in the urban areas.

- 2. Of the total area, an area of about 7.5 lakh acres is cultivable. Out of this, about 3.05 lakhs acres are under paddy, while the balance of the cultivable area accounts for Nagli and other 'warkas' crops and horticulture. About 10,000 acres are cultivable waste lands including inferior 'warkas' and slope lands, and 46,892 acres constitute forest area. The average rainfall in the district is 125 inches between June and October. The fertile land of the district is mostly near the tidal rivers in the south. Over the rest of the district, the soil is poor. The rocky coastline is intersected by numerous creeks and navigable rivers. The climate is moist but on the whole healthy. In short, the soil and climate of this district are more suitable to horticulture than to agriculture.
- 3. Due to dense population and inadequate food production because of poor soil potential, the district has to depend for supply of food for about eight months in a year on the neighbouring districts of Belgaum, Kolhapur and Kolaba, in addition to the supplies received via Bombay by sea.
- 4. The District has posed a serious administrative problem to the Bombay Government ever since the earlier days of British rule. Its problems were permitted to deteriorate to a state almost 'beyond repair'. Forces of nature and mankind have successfully conspired and acted jointly for the last two centuries, in reducing the country-side to a state of barren wilderness; leaving in it the very minimum possible potentiality for food production. The inaccessibility of this area, though pronounced, ranks second to the local problem of depleted production potential through prolonged soil erosion. These conditions have resulted in special conditions like the large scale exodus of (seven lakhs of) Ratnagiri's population to Bombay for urban employment in preference to cultivation.
- 5. The eroded condition of the soil, and the fact that in most parts hardly a few inches of top soil remains for cultivation, the most important item on the proposed programme will have to be large scale soil conservation and afforestation. The steep nature

of the local country-side results in the soil wealth of the district being washed into the sea. Large scale fellings and indiscriminate cultivation on hill sides over many years have resulted in the soil being devastated by extreme erosion. With this tragic picture in view, it is not surprising in the least that until Independence Ratnagiri received step-motherly treatment at the hands of the Government then in power. The attitude of the said Government is quite clear by the fact that Ratnagiri was always selected for the location of problematical and derogatory institutions. The same attitude seems to have been applied to the posting of staff which was composed mostly of mediocre disgruntled elements with no heart in their work. The situation has now improved but the Committee would seriously recommend the proposals already outlined by it in its general report (Para 1.36 & 1.37) with regard to postings, service conditions and selection of service personnel in Ratnagiri area.

- 6. On hill tops a programme of extensive plantation of cashew and other cash crops is being recommended. In lands immediately below the hill tops, a 'bench' terracing programme has been found to be the best proposition to enable the cultivation of improved varieties of millets and cash crops other than cashew. In lower lands the terracing should be perfect enough to enable paddy cultivation and thereby make intensive paddy cultivation possible. Such a Plan has been made with due regard to practical conditions keeping in mind special local conditions right from the research to the cultivation stages. Other cash crops which are being included in the programme are alphonso mangoes, coconuts and Arecanut etc. In comparatively richer valleys, where presence of spring water enables double cropping, an intensive drive of J.P.C. paddy cultivation is being recommended for adoption.
- 7. There is not much scope left for reclamation, inspite of the fact that the district has only 8.68 lakhs acres under cultivation out of a total area of 31.66 lakh acres. It is, however, possible to reclaim some more 'Khar' land which can be desalined, and made fit for paddy cultivation. In the opinion of the Committee, such a programme, however, will have to be entirely implemented by Government departmentally, and effective legislation enforced to make it possible for the lands to be taken up, reclaimed and returned to the cultivator for cultivation. Charges for reclamation, which to some extent can be subsidised may subsequently be recovered in long-termed easy instalments.
- 8. In certain areas although earthen soil is only two to four inches deep, the layer immediately below is soft rock which if pulverised mechanically, is said to have the chemical potential to grow crops. A survey of such areas is recommended alongwith an examination of the scientific aspect of this proposal so that the economics of a large scale mechanised reclamation scheme may be chalked out. Meanwhile a small 'pilot' scheme is being recommended.
- 9. As regards reducing Ratnagiri District's inaccessibility, the Committee recommend that the existing steamer arrangements from Bombay should not be permitted to come to an end. It has been represented to the Committee that the existing rates are unreasonably high, and that steps should be taken to rescue the fate of

the local steamer service from the uncertainty which has been permitted to develop with regard to its continuation.

- 10. The Goa-Bombay road already under construction, will be the most important main highway of this area. It is necessary that the existing programme of its completion be speeded up as a special case. With regard to smaller local roads which will link the proposed railway and Bombay-Goa road both with Eastern interior and the western coastal areas, a phased programme has to be evolved, fixing priorities.
- 11. The extent of navigable penetration of creeks is being reduced every year by silting. A programme of de-silting will be necessary so that in such areas the original extent of accessibility is restored.
- 12. Prolonged backward conditions have deprived the district of suitable marketing facilities for even its limited production. Therefore, while embarking upon a programme for increased production, a parallel programme of increased and better marketing facilities is essential.
- 13. As regards the utilisation of the mineral resources of the District, the State Government has declared its intention to eventually utilise a certain amount of power from Koyna Project, in favour of this area. An industrial survey of an order which can be developed by the amount of energy proposed to be made available for Ratnagiri from the Koyna Project would be most useful.
- 14. A special development programme for fisheries, for which this area has potentialities is also recommended, and side by side, the feasibility may be examined for setting up a solar dehydration unit for fish, so that it may be possible to transport dehydrated fish into inaccessible parts in the interior of the district where fish is consumed with relish, but where it cannot be transported during the monsoon period. Increased consumption of fish will, to some very small extent, result in decreasing the consumption of foodgrains.
- 15. The inhabitants of this District provide men to the Defence services, skilled labour factories in Bombay, Police Services, and domestic servants in urban Bombay in large numbers resulting in the district receiving large sums of money from its population residing outside. This regular supplementary income which is said to amount to Rs. 35 lakhs a month in the way of postal remittance alone, though a welcome relief, saps the will of the left behinders, mostly women, children or elders to put in maximum effort. The exodus of population, therefore, which was a direct result of 'not enough' being available at home, is now also indirectly causing an indefinite extension of the conditions which led to it, and a vicious circle has come into existence.
- 16. The programme of development of cash crops and setting up of small-scale industries in mining, fisheries and canning of fruits is, therefore, of fundamental importance as ready profits will inject an incentive for the population to try and develop their own resources at home.

Existing Food Production Programmes

- 17. The geographical area of this district is 31.65 lakh acres and the net area sown is 8.53 lakh acres. The general State-wide schemes for food production such as improved seeds, wells Schemes, Seed Farms Scheme etc. are also in execution in the District.
- 18. Keeping in view the local conditions the food production schemes are generally working satisfactorily. So far as wells scheme, pumping sets scheme etc. are concerned, there is reported to be good scope for expansion. Besides due to ingress of sea-water the agricultural lands along the coast have been reduced completely or made partially unfit for cultivation with the result that an area of only about 7.5 lakhs acres is cultivable. The culturable wastes in the District are about 7 lakh acres. Some reclamation works have been taken up by the Khar Land Development Board.

Land Tenure

- 19. The predominant land tenure of the Ratnagiri District was the Khoti tenure. The origin of the tenure was in the rugged nature of the tract and the difficulty of collecting land revenue in the area. Owing to these factors, a powerful influential middle man who could settle himself in the village, organise cultivation of lands, command confidence of the ryots and be responsible to Government for revenue was badly needed. This situation created a middle man called the Khot between the Government and the actual tillers of the land. The tenure originated in the time of Yusuf Adil Shah of Bijapur (1489-1510). Subsequently, some Khots were created by Mughals, Marathas and Peshwas. The Khots were given Senads in respect of villages given to them for revenue management. They were treated as hereditary farmers of revenue with certain defined rights over their subordinate ryots.
- 20. In order to settle the rights and responsibilities of the khots, the Khoti Commission was appointed in 1874. On the basis of its recommendations, the Khoti Settlement Act, 1880 was enacted. The Act merely defined the respective rights and did not confer any new rights which were not in existence. The Khot held the village on payment to Government of Jama—the aggregate assessment of the village and enjoyed Khoti faida. His rights to Khoti lands were hereditable and transferable. He had also reversionary rights in respect of the Khoti nisbat lands forfeited or lapsed for failure of heirs and resigned by permanent tenants. He was entitled to Khoti faida from the permanent tenants and quasi-deharekaris. He had full rights in the Khoti Khasgi land.
- 21. The Khoti Khasgi land was the private property of the khots, but the khoti nisbat was the joint property of the khots. The khoti tenure resulted in the oppression of the cultivators. The evils were inherent in management of the village themselves. In order to remove the intermediary khots from the village administration, the Bombay Khoti Abolition Act, 1949, was enacted and enforced with effect from 15th May 1950. The Act abolished the khoti tenures with all its incidents. In the case of khoti khasgi lands, the khot was recognised as an occupant and the de-harekaris or quasideharekaris and the permanent tenants were settled as occupants

in respect of the lands in their possession. In the case of khoti nisbat land, the tenants in possession were recognised as occupants. The khots were compensated for the loss of the khoti faida.

- 22. Besides the khoti tenure, there were certain villages and lands in inam tenure. These tenures have also been abolished by enacting special legislation by the Bombay State.
- 23. As a result of the abolition of khoti and other special land tenures, the tenure that has emerged is ryotwari throughout the district. The ryotwari tenure is regulated under the Bombay Land Revenue Code, 1879.

Fertilisers and Seed Multiplication

- 24. As the soil is mostly rugged, rocky laterite and inferior and as the only important crop is paddy and, in view of the fact that most of the cultivators are very poor, the demand for supply of fertilisers has been very slow. It is believed that 50% of the areas suitable for manuring are fertilised with fishmeal and other mixtures.
- 25. There is no scheme for supply of improved seed to the cultivators at concessional prices. The nucleus seed of recommended varieties is produced at the Research Station. This seed is then multiplied on the Seed Farms and supplied to the Registered growers or to the Farmers Unions for further multiplication and later on supplied to their neighbouring cultivators.
- 26. The estimated requirement of various types of foodgrains is 2.82 lakh tons. Fifty percent of this would be rice and the balance will be wheat, jowar and other foodgrains. The requirements of foodgrains to the tune of 74,000 tons are met from outside incurring transport cost of Rs. 21 per ton and the rest from internal sources. The imports of 74,000 tons of foodgrains involve an expenditure of Rs. 363 lakhs.

Communications

- 27. As stated in paras 1.21 and 1.22 of the General Report, the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock cart, tracks or footpaths. In the case of Ratnagiri, this is all the more important as horticulture, which is the most important occupation of the people, needs a special coordinated programme of communications. Such a programme will enable the cultivator to bring his produce to the marketing and processing centres. The Government of India are already meeting the full cost of the development of the West Coast road extending from Panvel to Chelissery to the standard of a fully bridged road with one-lane asphalted carriageway. This road will provide uninterrupted communication facilities along the West Coast and will considerably facilitate the economic development of the area. Nearly 200 miles of this road lies in the Ratnagiri district and the Government of India have sanctioned estimates of a total cost of about Rs. 75 lakhs for the improvement of the road passing through Ratnagiri district.
- 28. The State Government have represented that the development of this area is seriously retarded on account of lack of railway

communication especially during the monsoon period when the steamer service to Ratnagiri is suspended and, people can travel only by State transport, or follow a circuitous route via Kolhapur or Belgaum.

- 29. The Committee have examined this question very carefully in consultation with the Railway Board. It is found that preliminary engineering and traffic surveys for the Diva-Dasgoan route were carried out in 1954. Konkan area lacks rail transport facilities and the principal movement of passenger traffic to and from Bombay is by means of buses or by the bus-cum-steamer route. Labour in very large numbers required for the Bombay industries, is drawn from this area. The road route via Mumbra is about 30 miles longer and during the summer months people take to the steamer route via Dharamtar. Of late, in spite of the road and steamer routes, there have been demands from the public of the area and from Bombay Government for the provision of rail facilities in this area to relieve congestion in greater Bombay, Thana and Kalyan region, and to open out fresh areas where Industries Department of the Bombay Government consider that Kharpada area in Pathalganga valley as a suitable site where textile, rayon, chemical and engineering industries can be established. There is plenty of water and abundance of forest wealth in these areas, and also mineral wealth to some extent. The Koyna Project is expected to generate electricity in plenty and the Bombay Government feel that it is only the lack of rail transport facilities that is delaying rapid industrialisation of this area.
- 30. With the above background in view, engineering and traffic surveys were conducted for a rail route from Diva to Dasgaon—a distance of 94 miles. There are a number of rivers to be crossed and the terrain is difficult. The traffic potential as assessed during the 1954-55 survey gave a net return of 0.3% on a capital investment of about Rs. 6 crores. The cost of construction has since then gone up and is expected to be of the order of Rs. 11 crores.
- 31. Apart from the remunerative aspect, the need for providing rail facilities in this comparatively undeveloped region was recognised and as a first step preliminary action on the Diva-Panvel portion of the Diva-Dasgaon alignment, with extension up to Uran, is being taken so that the Diva-Panvel length can be completed in the Third Plan. Diva to Panvel is 16 miles and Panvel to Uran about 14 miles. Uran is developing industrially and a big soda ash plant is planned to be located there. There is also scope for further development of salt industry at Uran. In addition, this area is bound to develop as a suburb of Bombay with the provision of these rail transport facilities.
- 32. As regards the portion beyond Panvel to Dasgaon, the length will be 78 miles and cost about Rs. 9 crores. The proposed rail route will be running almost parallel to the Panvel-Mahad Road and the important areas served will be Kharpada, Pen, Negothana, Roha, Kolad, Mangaon and Goregaon. The area is interspersed with hills and valleys, and cultivation is restricted to valleys the hills being covered with forests. Pathalganga, Amba and Kundlika rivers have to be crossed and, therefore, construction will be difficult and expensive.

- 33. We would strongly recommend that notwithstanding the difficulties of terrain and rivers to be bridged, due priority should be given in the Third Five-Year Plan to the construction of the railway up to Dasgaon as originally proposed, since this will go a long way to develop this region.
- 34. It was brought to the notice of the Committee that only sea transport facility at present obtaining from Bombay is threatened with discontinuance owing to the alleged unremunerative character of the service. Prior to 1950, three small Indian Shipping Companies were operating cargo and passenger services on the Konkan Coast. The persistent 'rate-war' among the three companies resulted, however, in disastrous losses to all of them. In 1939, the Scindia Steam Navigation Company had secured the management of the Bombay Steam Navigation Company which was till then managed by the British firm of Messrs Killick Nixon & Co. The Scindias were able to bring about a complete unification of the three different companies about the end of 1950 by the merger of the Indian Cooperative and the Ratnagar Steam with the Bombay Steam Navigation Company. Later, in 1953, the Scindias effected a further reorganisation and constituted the Bombay Steam Navigation Company (1953) Ltd., as a subsidiary of the Scindias and since then. this Bombay Steam Navigation (1953) Company has been operating the coastal services along the Konkan Coast, catering to an annual traffic of 8 to 81 lakhs of passengers on the Konkan coast and three lakhs passengers in the Harbour of Bombay. In 1957, the Company represented to Government that they could not continue in the trade unless Government give them assistance in the following three modes simultaneously:
 - (a) enforce a rise in passenger fares such as may be found feasible if at all, to make good a part of the current yearly losses,
 - (b) subsidise the Company to make good the balance of the current yearly losses, and
 - (c) give the Company an interest-free loan up to rupees 3.20 crores for replacement of vessels.
- 35. In the meanwhile the Director-General of Shipping, at a meeting held in Bombay in September, 1957, discussed the entire question with the representatives of the Shipping Company. As a result of the discussions the Company agreed to renounce its demand for an interest-free loan of Rs. 3.20 crores, and agreed to maintain the service for a further period of 8 years on the following main conditions:—
 - (i) Government should agree to release the necessary foreign exchange immediately for the replacement of the boilers of their overaged vessels. The total estimated cost of replacement of the boilers would be about Rs. 15 lakhs. This will enable the Company to carry on their service for a further period of 8 years.
 - (ii) At the end of three years (from September, 1957), the question of replacement of vessels by placing orders for new ships will be considered.

- (iii) Government should agree to an increase in the passenger fare by 12 to 15 per cent with effect from September, 1958 and if the Bombay Government are not agreeable to an increase, they should be asked to subsidise the yearly losses as shown in the balance sheet.
- (iv) The Company should be allowed to rationalise the services.
- 36. The Government of Bombay were informed of this development and their views were invited. They were also told that these conditions were inescapable if the service was to continue. Government of India on their part also agreed to grant the requisite import licence with release of foreign exchange of Rs. 15 lakhs in favour of the Company for import of boilers. The Government of Bombay did not, however, agree to the conditions laid down by the Company. Being a Commercial concern, the Company could not allow the deadlock to continue. They accordingly sent a note to the Government of India that they would be winding up these services in June, 1959, if no solution to the question of covering their losses could be found by that time. In order to find a permanent solution to this problem, the Government of India have now decided, with the concurrence of the State Government as well as the Shipping Company, to appoint a high-powered committee to go into the entire question. The Company have also agreed to maintain the service till the Committee have been appointed and have submitted their report. Accordingly, the Government of India appointed a Committee under the Chairmanship of Shri P. S. Rau, I.C.S. (Retd.).
- 37. The Committee sensed a feeling of anxiety both on the part of the people of the area and the State Government as to the fate of this vital link of communication with the rest of the Country. We would strongly recommend that a permanent solution to this problem should be found so that the people of the area are not put to any inconvenience on this account.

Desilting of Creeks

- 38. The State Government fully realised the need for dredging the navigational creeks of the various ports situated in Districts of Konkan area. Most of the minor ports of the old Bombay State are located on the banks of rivers or creeks. The depth of water at those places is getting steadily reduced due to continuous siltation with sand and mud brought down by the rivers and in most cases enormous bars have been formed at the entrance of the navigational channel.
- 39. Desiltation has, therefore, to be given due priority for making these channels safe for navigation. The State Government have decided to purchase dredgers and dredging equipment costing Rs. 30.50 lakhs for carrying out the dredging operations inside the creeks and rivers. Orders for the purchase of one dredger costing Rs. 2.27 lakhs have already been placed. A drag line excavator has already been purchased for desilting purposes.
- 40. The Committee are satisfied with the arrangements made and strongly feel that when put into operation, it will go a long way in making the minor ports suitable for navigation.

41. The Committee recommends that as a special case the State Government should be extended all possible cooperation and assistance by the Centre in importing the essential machinery for this programme.

Financial Implications

42. The Committee find it difficult to form a fair estimate of what a special programme is likely to cost for the development of this District. As mentioned in the General Report of the Committee (Paras 1.13 to 1.15) the Committee have already expressed their firm opinion that within the resources of normal planning at State level, districts like Ratnagiri can never hope to reach a state of comparative development with more fortunate and better developed areas. The problems of areas like Ratnagiri will necessarily have to Ъe deemed as National and provisions therefor made in addition to existing plan schemes. Since the size of the Third Plan is still in a very tentative stage, the Committee are only in a position to make equally tentative estimates. The size of the Second Five-Year Plan of Bombay State is Rs. 35,028.39 lakhs which calculated in a very ad-hoc manner comes to Rs. 73 per capita. Ratnagiri's share can thus be calculated as Rs. 1,242.45 lakhs. Presuming that the Third Plan will be approximately 21 times the size of the Second Plan, Ratnagiri's share will be Rs. 3,106.13 lakhs. Keeping in consideration its recommendations to allot special programmes for inaccessible areas, the Committee recommend that for Ratnagiri in addition to the normal 21 times increase from the Second to the Third Plan, schemes worth an extra 50% of the size of the Third Plan should be sanctioned. The Committee are giving a list of schemes of various departments along with priorities and rough estimates of the financial implications involved. The total proposed outlay amounts to Rs. 3,339.68 lakhs which can be phased over a period of time according to the availability of funds. (Appendix—Ratnagiri/A).

Central Pattern of Assistance

43. As regards the pattern of central assistance to be given for schemes in this District, the Committee would like to emphasise that the normal pattern applicable to the rest of the country should be relaxed. After taking into account all the circumstances prevailing in the various inaccessible areas, the Committee have come to the conclusion, and accordingly recommend that the pattern of central assistance should be on the following basis:—

44. At present well schemes are subsidised only in the case of those pertaining to foodgrain production. In inaccessible and economically under-developed areas, horticulture plays an important economic part, and therefore the Committee recommend that schemes for sinking wells for irrigation of fruit orchards and for other horticulture purposes should also be made eligible for subsidy at 33%. The Committee would also recommend that on similar grounds schemes for supply of engines and pumps should be made

eligible for subsidy at 66% to be shared equally between the Centre and State Governments.

Agriculture Development and Research

- 45. The Committee's recommendations in respect of various schemes to be taken up for the Agriculture and allied development of the Ratnagiri District are given below:—
 - 1. Keeping in view the fact that the existing economic distress of this area is largely due to an utter depletion of soil, the most important and basic item of agricultural development should be conservation of soil and moisture, to be attained as early as possible.
 - 2. Where presence of spring water enables wet cultivation, an intensive drive of Japanese method of Paddy cultivation may be organised.
 - 3. There should be an extensive survey for land utilisation before the above programmes are launched and implementation should be a coordinated effort of all the Departments concerned.

Soil Conservation

- 46. The only soil conservation measures which can be practised in the heavy rainfall areas of the Ratnagiri district are—
 - 1. Trenching;
 - 2. Contour bunding; and
 - 3. Bench terracing of hill slopes.
- 47. The first item should be incorporated with Cashewnut development scheme and the other items should be incorporated with the scheme of increasing the area under Nagli cultivation and Paddy cultivation.
- Scheme for increasing area under the Japanese Method of Paddy Cultivation
- 48. This scheme is already undertaken by the State Agriculture Department. All available area is proposed to be covered under the departmental scheme. No separate scheme is, therefore, recommended.
- 49. It is estimated that the area available for bringing under Japanese method of Paddy cultivation is about 50,000 acres. Out of this, 20,000 acres will be covered by the end of Second Five-Year Plan period and the rest will be covered during the Third Five-Year Plan period.
- Scheme for increasing the yield of Paddy and Nagli by supplying Improved Seeds
- 50. This scheme is also undertaken by the State Agriculture Department and the programme has already been prepared to cover the available area under improved seeds by increasing the number of Seed Farms. No separate scheme is, therefore, proposed.

51. At present the supply of improved seed of paddy is just sufficient to cover the needs of the cultivators who adopt the Japanese system of cultivation. It is expected that by the end of Third Five-Year Plan period the Department will be able to supply improved seed of Paddy for about 2 lakh acres and thereafter will meet the full requirements of the district. So far as Nagli is concerned, the State Agriculture Department is reported to be able to supply improved seed to cover only 17,000 acres by the end of Second Five-Year Plan period. It is targetted to supply improved seed to all the Nagli area, viz., 1.48 lakh acres by the end of Third Five-Year Plan period.

Scheme for increasing the yield of Paddy and Nagli by use of fertilisers

52. The State Agriculture Department have stated that as chemical fertilisers are not available in adequate quantity, it is not possible to execute such a scheme. The fertilisers available now are just sufficient to meet the requirements of cultivators growing Paddy under Japanese method.

Pilot scheme for cutting up of laterite rock by mechanical means for cultivation

53. It was proposed by the State Government that 10,000 acres of rocky plateaus may be taken under this scheme. The laterite rocky surface will be cut and broken up so as to pulverise it as much as possible by tractor drawn implements. According to levels suitable plots will be enclosed by bunds to form fields. We, however, feel that as the scheme will necessitate the import of a large number of Heavy tractors (D-8), in view of import difficulties, to begin with only two units should be imported for carrying out a pilot scheme and the programme expanded in the light of the experience gained. It may be noted that in such areas some enterprising cultivators have successfully reclaimed small fields manually with success.

Scheme for converting hill slopes into Paddy fields by terracing

54. There is an area of 4.5 lakhs under other fallows and also an area of 7.1 lakhs under cultivable waste. Out of this total area of 11.6 lakhs, it is expected that 3 lakh acres will be available on the lower slopes of hills for converting into Paddy lands by terracing. It is estimated that each acre of terraced land will cost approximately Rs. 750. Keeping in view the special local conditions, a substantial subsidy will be necessary. It is, however, recommended that, to start with, one lakh acres may be taken up for conversion involving an outlay of Rs. 750.00 lakh.

- 55. In addition, the following schemes are also recommended:-
 - Scheme for converting hill slopes into Nagli fields by partial terracing.
 - 2. Scheme for plugging small nalas for diverting water for irrigation of Paddy.
 - 3. Scheme for sinking wells for irrigation of fruit orchards.
 - 4. Scheme for supply of engine pumps or motor pumps.

- 5. Scheme for increasing the area under cashewnut.
- 6. Scheme for increasing the area under mango.
- 7. Scheme for increasing the area under cocoanut.
- 8. Scheme for increasing the area under arecanut.
- 9. Purchase of bulldozers, necessary implements and establishment of a workshop.
- 10. Staff and purchase of tools and implements.

Scheme for converting hill slopes into Nagli fields by partial terracing

56. Most of the lands on steep slopes which are at present under shifting cultivation for growing Nagli, can be levelled out with a view to raising Nagli crops more frequently. It is estimated that about one lakh of acres of land can be partially terraced at a cost of Rs. 500 per acre. The total cost for the same will amount to Rs. 500.00 lakh.

Scheme for plugging small Nalas for diverting water for irrigation of Paddy fields

57. Wherever possible, it is intended to divert water from Nalas to Paddy fields at the fag end of the season, with a view to assuring the Kharif paddy crop and also to take a double crop if possible. The plugging of such Nalas will be done in pucca masonry with suitable arrangements for taking water into the fields. It is estimated that an area of 10,000 acres can thus be protected under assured supply of water, so that crop production can be assured at considerable higher rate of production. The cost of Nala Plugging at the rate of Rs. 200 per acre would be about Rs. 20 lakhs.

Scheme for sinking wells for irrigation of fruit orchards

58. There are already 11,798 wells, mostly for irrigating fruit crops in orchards. The total area under irrigation is 12,000 acres. Thus roughly one well is irrigating one acre of fruit crops. As it is proposed to bring about 3,000 additional acres under cocoanut and arecanut plantation, approximately 3,000 new wells will be required to be constructed at a cost of Rs. 3,000 each. The total amount required will be Rs. 90 lakhs.

Scheme for supply of engines and motor pumps

59. It will be possible to instal about 1,500 small H.P. engine pumps and 1,500 small H.P. motor pumps at suitable sites. The total amount of loan required at the rate of Rs. 2,000 on an average will come to Rs. 60 lakhs.

Scheme for increasing the area under Cashewnut

60. The Department has already a programme to bring 5 lakh acres of land under cashewnut plantation in Ratnagiri district in the Third Five-Year Plan. There are 20.5 lakhs of acres of land under category (i) barren and uncultivable, (ii) cultivable waste and (iii) other fallows. Deducting 5.5 lakhs acres which are proposed now for terracing and further 5 lakhs already targetted under the current

scheme for cashewnut plantation, still 10 lakh acres are left for increasing plantation under cashewnut. It is, therefore, proposed to continue this scheme beyond the III Plan and cover additional 7 lakh acres under this crop. The total amount required at the rate of Rs. 100 per acre for 7 lakh acres will be Rs. 700.00 lakhs.

Scheme for increasing area under Mangoes

61. There is already an area of about 8,000 acres under Mango plantations. There is scope to add 40,000 acres under Alphonso and Payri. Loan of Rs. 300 per acre may be granted to the cultivators to enable them to establish mango orchards. The total amount required will be Rs. 120 lakhs.

Scheme for increasing area under Cocoanut

62. The area under Cocoanut at present is about 13,300 acres. About 2,000 acres can further be added under this plantation. The amount of loan required at the rate of Rs. 300 per acre would be Rs. 6 lakhs.

Scheme for increasing area under Arecanut

- 63. The area under Arecanut is about 3,700 acres at present. There is scope to add 500 acres under this plantation. At the rate of Rs. 1,000 per acre the total amount that would be required for loan would be Rs. 5 lakhs.
- 64. The above schemes will involve an outlay of Rs. 3,008.96 lakhs. A statement showing the details of such expenditure is enclosed (Appendix—Ratnagiri/B).

Minor Irrigation

- 65. There are only slender possibilities of providing flow irrigation in the Ratnagiri District. Laterite formation does not lend itself to construction of tanks, since the tank beds percolate heavily and water cannot be stored therein. Bandhara irrigation is also not possible everywhere on an extensive scale, since no irrigation is required during the Kharif season on account of heavy rainfall and very little irrigation is possible in the Rabi season on account of poor post-monsoon flow.
- 66. The State Government is investigating the possibilities of utilising a portion of the Koyna Tail Race for irrigation. Similarly, some irrigation is possible by lift from the tail race as well as rivers, nallas and creeks having perennial water supply.
- 67. In view of the very undulating terrain of this district, the irrigation channel system becomes very costly and as such, it is recommended that the normal standards of cost per acre should be relaxed in the case of this district. It would be desirable to permit construction of bandharas in this area at a cost 50 per cent higher than the normal.
- 68. In regard to the lift irrigation schemes, electricity should be made available to the cultivators at a concessional rate. Such a concessional rate should be still lower in this district for the reasons mentioned above than is normally made applicable for agricultural lift irrigation in the plains.

Fisheries Development

- 69. The Ratnagiri District has a coastline of 300 miles, ranging from the Bankot Creek in the north to the Terekhol Creek in the south bordering on Goa. The District has rich marine fisheries resources. The men who operate these fisheries are hereditary fishermen, well-known for their seafaring traditions.
- 70. The number of households depending on fisheries in the District is over 10,000 and the population of fishermen is about 67,000. The number of persons actively engaged in fisheries is about 12,000. The number of fishing boats is 4,500 out of which 1,800 are of the tonnage less than one ton, 2,400 are of tonnage between one and three tons and the remaining are over three tons. The total capital investment in boats at cost of purchase, is about Rs. 13.00 lakhs. The fishing gear are of several kinds, the most important being Wavri (surface drift nets), Waghur or Budi (bottom, gill nets), Rampan (shore seines), Dol (bag nets), Jot (purse seines) and long lines. The capital investment in nets is estimated to be Rs. 40 lakhs at cost of purchase. The total production of marine fish of the district is estimated to be 30,000 tons out of which over 5,000 tons is salt cured and about 10,000 tons converted into manure. The total value of the fish production is estimated to be Rs. 45 lakhs.
- 71. The fisheries have remained backward due to several reasons, the most important being the poverty of the fishermen, lack of good means of communication and the absence of convenient marketing facilities. One of the other inhibiting factors is the general siltation of the creeks in the District which has resulted in the diminution of fish catches in the estuaries.
- 72. The State Government have taken several measures for the development of fisheries of the District, the most important being the establishment of 21 fish curing yards at the important landing centres throughout the coast. The fish curing yards handle over 5,000 tons of fish every year. Steps are being taken to establish two ice factories and cold storage plants one each at Malvan and Ratnagiri. Demonstrative fishing is carried on aboard a mechanised craft equipped with modern gear. Four fisheries primary schools have been established to afford educational facilities to fishermen's children. Financial assistance is given for purchase of fisheries requisites and for mechanization of fishing crafts. However, mechanization has not made much progress because of the poverty of fishermen and the absence of markets.

Long-range Programme

73. A long-range programme of development is, therefore, necessary to afford financial and technical assistance to the fishermen and fishermen's co-operative societies in production of fish, for development of marketing, transport and preservation facilities. Considering the backwardness of the District and the age-old poverty of the fishermen; which is evidenced by the fact that about 3,000 fishermen seek employment in the fishing fleets in Greater Bombay and Kolaba District every year, the terms of assistance namely the requirement of security, the percentage of subsidy and the rate of interest of loans, will have to be liberalised as compared to other areas. The

long-range programme should aim not only at doubling the present production during a period of 20 years but also at providing commensurate facilities for shore services such as landing, servicing and refrigeration and for marketing and transport. Provision has also to be made for subsidiary industries and by-products such as fish liver oil plants and fish meal plants. A programme for vocational education and welfare has also to be provided for. Such a programme to be achieved during a period of 20 years will involve a total outlay of about Rs. 396.00 lakhs, and will include capital cost of Rs. 256.00 lakhs and a recurring cost element of Rs. 140.00 lakhs. A statement of schemes indicating the capital investment and the annual recurring cost is appended. Another statement showing the phasing of physical targets over four five-year periods is also appended.

Special Amenities

- 74. (1) As the fishermen are poor, the condition of security against the loan may be relaxed so that the assets created by the loan may be taken as security.
 - (2) The percentage of subsidy should be 50% for all equipment.
- (3) Charging interest at a rate lower than usual on Government loans may be considered.
- (4) Repayment of loan should commence six months after the assets created with the loan have been actually put into operation.
- (5) Period of repayment should be ten years in the case of ordianary loans to individuals and more in other deserving cases.
- (6) Fishermen's welfare centres with attached dispensaries should be established at important fishing centres.

Item (1)	Capital Cost in Rs. (2)	Annual recurring cost in Rs.
1. Supply of 5,000 boats at Rs. 7,000 each	35,00,000	15,000
2. Supply of 500 engines at the rate of Rs. 12,000 each	60,00,000	15,000
 3. Ice factories and cold storages 8 Nos. at the rate of Rs. 1.25 lakhs 4. Supply of fishery requisities at the rate of Rs. 1,000 per boat 	10,00,000	2,70,000
for 500 boats	1,00,00,000	15,000
5. Boat building yards 2 Nos. at Rs. 2,00,000 each	4,00,000	
6. Mobile service stations 2 Nos. at Rs. 80,000 each	1,60,000	40,000
7. Trucks for fish transport 16 Nos. at Rs. 30,000 each	4,80,000	40,000
8. Transport launches 4 Nos. at Rs. 60,000 each	2,40,000	_
9. Four Multi-purpose fishing boats each at Rs. 2,50,000	10,00,000	1,80,000
10. One shark liver oil factory	5,00,000	50,000
11. Two fish meal plants at Rs. 1,00,000 each	2,00,000	50,000
12. Training centre in fisheries	2,00,000	30,000
13. Pisheries High School	1,00,000	50,000
14. Fishing port development	18,00,000	
Total	2,55,80,000	7,00,000
therefor	re 1,40,00,000 f	or 20 years.

SUMMARY

						Rs.	
Capital	 	 				••	2,55,80,000
Recurring	 	 		••	••	• •	1,40,00,000
			To	TAL	••		3,95,80,000

Statement showing phasing for each five-year period

			-	-	-		
	Unit			Ī	II	III	IV
Fishing boats	•••			125	125	125	125
Engines				125	125	125	125
Lee factories			• •	2	2	2	2
Fisheries requisites	• •		••		equal all	ocation	_
Boat Building Yard				1	1		_
Service Station				1	1		_
Transport Trucks		••	•••	4	4	4	4.
Transport launches		• •		1	1	1	1
Multipurpose boats			E SA	2	2		
Shark Liver Oil		La		244	1	-	_
Fish meal plant		Val.			1	1	_
Training centre		- 73		1	_	-	_
Fisheries High Schoo	1	(6)		1		_	_
Port Development			t to d	1-	Equal ph	asing.	
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Animal Husbandry

75. In the District of Ratnagiri, out of 31.65 lakh acres of land, over 17 lakh acres is such which can be utilised for production of feeds and fodder for Livestock, viz., cattle, sheep, ducks, pigs and goats, etc. In addition to this, there will be crop residues of the cultivated land and also the grasses from forest land.

76. In view of the fodder resources which can be raised, and the heavy rainfall the schemes mentioned below are recommended for the development of livestock of all classes. As regards poultry development, the State Government have proposed to start one demonstration centre in the Ratnagiri District during the Second Five-Year Plan. This is, however, admittedly too inadequate a programme for livestock improvement. The following comprehensive programme is, therefore, recommended to meet the special needs of the district. The estimated total outlay is of a little over a crore or rupees.

- (1) A Central Semen Station may be established in a suitable town which is well connected to all parts of the district. From this station semen from superior bulls (Zebu and Buffalo) can be conveniently and economically transported to the various Sub-Centres. The estimated cost is about Rs. 1 lakh.
- (2) Artificial insemination sub-centres for each taluka is necessary in view of the large cow population. The total initial cost involved would be Rs. 4,50,000.

- (3) A Buffalo Breeding Farm with 100 buffaloes is necessary having regard to the conditions available in the district. The estimated initial cost will be Rs. 9,45,000.
- (4) Twenty supplementary cattle breeding centres with 10 cows for each centre may be opened at a recurrent cost of Rs. 60,000 per annum.
- (5) With a view to provide superior type of bulls and to upgrade the inferior local-stock 50 breeding Bull Centres at an initial cost of Rs. 4,50,000 may be established.
- (6) Under the Fodder development programme some 18 demonstration units can be established so as to introduce crop rotation with legume fodders along with paddy. The initial cost involved is Rs. 1,80,000. It is also advisable to take up increased production of seeds, roots, cuttings, etc., of superior fodder crops and grass particularly legumes either in existing State farms or set up fodder seed multiplication units in the area. At least one existing farm may be taken up for pasture and fodder development, and about six fodder seed multiplication farms of 25 acres each set up in the area. The estimated cost would be Rs. 4,35,000.
- (7) 3,600 silo pits for preservation of fodder may be constructed at an initial cost of Rs. 23,00,000.
- (8) One Poultry Development Centre at an initial cost of Rs. 1,00,000 is necessary in the interest of poultry industry which is ancillary to agriculture.
- (9) Establishment of one poultry unit at each taluka is desirable. The total initial expenditure involved would be Rs. 5,50,000.
- (10) Two Duck Breeding Farms at initial cost of Rs. 90,000 may be established as the area is suitable for the purpose.
- (11) Two piggery units together with 8 piggery blocks can be started at an initial cost of Rs. 2,58,000.
- (12) One Sheep Breeding Farm with 250 Breeding Sheep may be established at an initial cost of Rs. 1,85,000.
- (13) Sheep Development Centres may be started under the Sheep Breeding Farm in various parts, at an initial cost of Rs. 60,000.
- (14) Three Mobile Veterinary Units may be sanctioned forcontrol of contagious diseases at an initial cost of Rs. 75,000.

Industries

77. Ratnagiri district is in an unfavourable position both geographically and topographically. Hence the industrial development which can be planned for this area, will have to be mainly based on the exploitation of mineral resources in and around the district, and/or based on imported raw materials due to the facility of ports. Agricultural resources for industrial use are not likely to be available in abundance, at least in the near future. With the availability of power from Koyna project and the completion of the Bombay-Goa

road, the industrial development in the district, particularly in Chiplun Phophali area is likely to get considerable impetus. The perennial supply of water from Pophali (Koyna project tail waters) would make Chiplun navigable throughout the year. The Public Works Department may have to investigate and study this problem and undertake a scheme for development of Dabhol-Chiplun portion for additional and all-time navigational facilities. Due consideration should be given to Ratnagiri in future plans for the Industrial Development of the State with emphasis, on Small Scale Industries Programme. Specific industries which have scope for development are:—

- (a) Cashewnut Sheel liquid—(Malwan, Vengurla).
- (b) Levigation of ochres—(Sawantwadi)
- (c) Fish Manure and Fish Meal—(Ratnagiri).
- (d) Sailing Vessels—(Ratnagiri, Jaygad, Vijadurg, Devgad, Malwan).
- (e) Cold-storage plants for preservation of fish.
- (f) Bricks and Tiles factory—(Sawantwadi, Chiplun).
- (g) Cement products—(Sawantwadi).
- (h) Road-Metal crushing.
- (i) Building materials etc.—(Chiplun, Ratnagiri).
- 78. It would be desirable to establish three industrial estates at Sawantwadi, Ratnagiri and Dapoli, where there would be considerable scope for establishment of small-scale industries.
- 79. It would be seen that with the advent of the Koyna Power there is sufficient scope for establishment of large-scale industries. The first essential is, however, supply of electric power at rates which these power-intensive industries can bear. To that extent, provision of subsidy may have to be made, if it so becomes necessary. For each such industry, assistance in this regard would be necessary for at least about 10 years. This is a basic consideration in importing the 'First Push' towards industrialisation of the district. In other areas like Redi, Sawantwadi, upgrading of iron-ore and coloured clays respectively will have scope for development.

Cooperation

- 80. At present there are only 3 marketing and one fruit cultivation society in the Ratnagiri district. The main agricultural products of this District are Rice (which is the staple food crop) and amongst the cash crops are mangoes, cocoanuts, cashewnuts and arecanuts. Marketing and Multipurpose Societies registered in the District are undertaking business in mangoes and arecanuts, but the quantities handled by Co-operatives are negligible. The following measures for development of Co-operative Marketing and Processing Societies are recommended:—
 - Sannhemp.—The State Government had sanctioned a special Scheme for this District in 1957 with a view to improving the method of grading and sale of Sannhemp which

has some foreign market. The Scheme envisaged grant of subsidy to Cooperative Societies to enable them to give advances to the cultivators of Sannhemp. Continuance of the Scheme will go a long way in helping the growers of Sannhemp to increase production and improve the quality of Sannhemp. Sannhemp can be used for superior quality of gunny bags and tarpaulin, etc.

- 2. Arecanuts.—The special scheme sanctioned by the Indian Central Arecanut Committee, taking into consideration the importance of the Societies dealing in Arecanuts in this District needs to be continued.
- 3. Mangoes.—A society will soon be formed at Rajapur for undertaking processing of inferior quality mango slices in brine. Such societies will need financial assistance by way of loan and subsidy, specially in view of their meagre resources. Preservation of mangoes can also be undertaken by these Societies when the transhipment of mangoes to markets like Bombay is stopped towards the end of the season, due to the discontinuance of steamer services.
- 81. The only Society registered so far is the Vengurla Cooperative Cashew Processing Society which is understood to be in need of financial assistance. The Committee has laid considerable emphasis in growing of cashewnuts in this District and as many Societies as possible should be started for the purpose.

Forest Development

- 82. The Ratnagiri district was very rich in tree growth especially teak, towards the middle of the eighteenth century. Most of the wood required for ship-building by the naval powers in Maharashtra came from this district. Simultaneously the Rules enforced forest conservancy. After the establishment of the British power in Maharashtra, the Government imported and settled labourers and cleared large tracts of forests for cultivation purposes. With the promulgation of the Dunlop Proclamation in 1829, when most of the forest were placed at the disposal of the people, the forest resources dwindled very fast due to unprecedented and unchecked felling with the result that the forest area in Ratnagiri is now hardly 1.5 per cent as against the minimum of 33 1/3% required according to the National Forest Policy.
- 83. About 8,36,000 acres of bare and barren land mostly of uncultivable waste type is lying unutilized. About half of it is rocky, denuded and inaccessible and difficult even to afforest. An area of about 5 lakh acres can however be developed through coastal plantations, mangrove plantations, plantations of teak, khair, matchwood, and bamboos and planting of agave hedge along the demarcation line. It would also be necessary to construct some forest roads and buildings which are absolutely essential for pushing through development work. The first thing necessary is an exhaustive forest L2F&A—8

survey of the land available. The available land should be acquired, and afforestation programmes implemented departmentally.

- 84. A brief outline of the work recommended is given below:-
 - (i) Mangrove Plantations:

These plantations are proposed in about 3,000 acres with a view to stabilise the banks of creeks so as to maintain them in a navigable condition, and in order to ensure adequate supply of firewood, fodder, tanning material, etc., to the neighbouring fishermen. It is estimated that the cost of the plantation per acre will be about Rs. 60 for the first year and about Rs. 15 per acre for the second year.

(ii) Coastal Plantations:

These are proposed in about 1,000 acres to stabilise the blowing sand, to check erosion of the coast, to increase the aesthetic effect and to meet the local demand of firewood and timber. The cost of plantation per acre is estimated to be about Rs. 120 in the first year and Rs. 60 in the Second Year and Rs. 40 in the Third Year including fire protection.

(iii) Plantation of Economic Species:

According to the suitability of soil conditions, important economic species will be planted. Few experimental plantations of canes, Rubber species, Tad and medicinal plantations will also be undertaken at suitable places. The cost of plantation per acre is estimated at Rs. 64.00 and the maintenance costs during subsequent years are estimated at Rs. 23.00, 9.00, 0.50 & 0.50 during 2nd, 3rd, 4th and 5th years respectively. The areas to be planted during the first, second, third, fourth and fifth years are 24,740 acres, 24,740 acres, 54,740 acres, 54,740 acres and 54,740 acres respectively.

(iv) Plantation of Kaju:

As Kaju is a dollar earning commodity and is eminently suited for certain patches, it is intended to take up pure plantation of Kaju in suitable area. Accordingly, it is estimated that about 25,000 acres will be available for this purpose and the same will be covered within five years at the rate of 5,000 acres per year.

- 85. It is expected that due to these measures an area of 2,40,000 acres will be afforested and the expenditure to be incurred will be about Rs. 202.87 lakhs spread over—say a planned period of time. In addition, some other works such as demarcation of annual areas, soil conservation works (Rs. 59,67,000) and wet nurseries (Rs. 17,25,000) will also be necessary.
- 86. Adequate staff will be necessary for the above development plan. One working plan Division, two or more Territorial Divisions with Divisional Forest Officers, and large subordinate staff of Rangers, Foresters and Beat Guards will be required. For transport purposes, six jeeps with trailors will have to be purchased. The

statement below will elucidate the total financial implications of the proposal:

P	reliminary stage	1st. yr.	2nd yr.	3rd yr.	4th yr.	5th yr.	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs-	Rs.
Plantation		28,88,860	37,15,780	65,77,290	73,11,960	75,66,830	2,80,60,720
Staff Bldgs. etc.	1,57,200	8,88,400	7,60,400	12,25,900	12,25,900	11,73,400	54,31,200
TOTAL	1,57,200	37,77,260	44,76,180	78,03,190	85,37,860	87,40,230	3,34,91,920
Ou	tlay on Committ	schemes ee for R	recomm atnagiri	ended by District	/ Inacces (Bomba) Rs. in la	y State).	rea
1. A	griculture		• •		30,08.96		
2. 1	Fisheries		• •	••	3,95.80)	
3. /	Animal Hu	sbandry	••		1,00.00)	
4.]	Forest		••	565 S.D.	3,34.92	2	
			Тота		38,39.6	3	

APPENDIX—RATNAGIRI/'B' PLAN FOR AGRICULTURAL DEVELOPMENT IN THE RATNAGIRI DISTRICT

Statement showing the targets of different schemes for increasing the production of food and fruit crops.

Serial No.	Name of the Scheme	Target in Acres	Total cost (Rs. in lakhs)	Addl. Produc- tion in tons	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1	Scheme for cutting of laterite rock by machines for making paddy fields.	10,000	200.00	Paddy 3,000	
2	Scheme for converting hill slopes into paddy fields by terfacing.	1,00,000	750.00	30,000	
3	Scheme for converting hill slopes in to Nagli fields by partial terracing.	1,00,000	500.00	8,000	
4	Scheme for plugging small nalas for diverting water for irrigation of paddy fields.	10,000	20.00	1,800	
5	Scheme for sinking wells for irrigation of fruit orchards.	3,000 wells	90.00		
6	Scheme for supply of engine pumps or motor pumps.	1,500 motor pumps 1,500 engine pumps.	60:00		
7	Scheme for increasing the area under cashewnut.	7,00,000	700.00		

(1)	(2)	(3)	(4)	(5)	(6)
8	Scheme for increasing the area under mango.	40,000	120.00		,
9	Scheme for increasing the area under coconut.	2,000	6.00		
10	Scheme for increasing the area under arecanut.	500	5.00		
11	Purchase of bulldozers, necessary implements, & establishment of workshops.	175 bulldozers 2 work- shops.	105.00 20,00		
		-	25,76.00		
12	Staff and purchase of tools and implements.		432.96		
	GRAND TOTAL	30),	30,08.96		



INACCESSIBLE AREAS COMMITTEE REPORT PART II

4. TRIPURA



TRIPURA ADMINISTRATION

General Observations

- 1. The Union Territory of Tripura comprising of ten Sub-divisions, is surrounded by Pakistan on three sides, and on its Eastern side, it is linked with Cachar District of Assam. The area of the territory is about 4,116 square miles (26,34,240 acres). The population, according to the Census figures of 1951 is 6.39 lakhs, of which 2.38 lakhs are tribals and 4.01 lakhs are non-tribals. With the influx of refugees, the population is now in the neighbourhood of 9.50 lakhs. About one lakh people are living in Agartala and its outskirts. The remainder population is overwhelmingly rural and is spread over in 3,626 villages. All Sub-divisional Headquarters except Agartala, are all classified as rural. Out of the total area the net area under crops in 1957-58 was 5.65 lakh acres of which about 0.78 lakh acres was double cropped.
- 2. The normal annual rainfall in the territory is 83.33 inches. The average rainfall during the period from May to September is 70.81 inches, representing 78.8 percent of the total rainfall; the maximum being in the month of June (19.98 inches).
- 3. Prior to partition, the erstwhile Tripura State was self-sufficient in food grains. Some producers could even export horticultural produce to the eastern part of un-divided Bengal. Almost complete sealing of borders of East Pakistan after partition has turned the once prosperous citrus and pine-apple gardens into liabilities, resulting in unmarketable gluts and dwindling incomes of growers. With the influx of refugees, and the resultant increase in population (56%), a self-sufficient territory has turned into a deficit area. At the same time, the influx and settlement of about 4.50 lakh refugees has created a strong demand for profitable employment, which in this dominantly agricultural territory would have to be found in intensification of agriculture in expansion of horticultural production, development of market and processing centres for horticultural produce and in cottage industries.
- 4. The average density of population comes to 231 persons per sq. mile. More than 80% of the population is dependant on agriculture. The fertile land in the territory is mostly the valley land while the rest of the soil in tilla and slopy areas is poor. The climate is moist and humid. The valley areas, popularly known as lunga land, are suitable mainly for paddy cultivation, while the tilla and gentle slopes are suited for horticulture.
- 5. Paddy is the principal crop in this territory, and Rice is the principal food. Total area under paddy cultivation is approximately four lakh acres. The average size of holding per family is 3.8 acres. Due to high pressure on land, obsolete cultivation methods and absence of irrigation facilities, this territory is yet to be self-sufficient in respect of food production and consequently depends upon imports.

- 6. The Inaccessible Areas Committee visited certain areas of the Territory, according to the programme drawn up by the Administration, to gain a first hand knowledge of the problems, facing such areas. The problems which are in consequence of the inaccessibility of these areas are, in a broad sense, the same in all the sub-divisions. Variations exist only in the degree of severity of adverse conditions.
- 7. According to the draft on the Second Plan, the daily consumption of foodgrains per capita is recommended at 15.5 ounces of foodgrains. Applying this formula, and providing a margin for increase in population, the annual total demand is calculated at 1.50 lakh tons. The annual local production is to the tune of 1.30 lakh tons and the annual shortage of 0.20 lakh tons is being met from other sources.
- 8. The territory being mostly hilly in nature and rainfall being high, soil erosion presents a major problem. The soil of tillas and slopes is precipitous and porous. As a result, fertile valleys have been subjected to deposits of coarse sand. No work on soil conservation was taken up during the First Five Year Plan. It was also brought to the notice of the Committee that hardly any minor irrigation programme could be taken up during the First Plan and even in first two years of the Second Plan for want of technical staff. The Committee sensed a great feeling of anxiety over this issue and strongly feel that some incentive should be created for the technical personnel to work in such far-flung areas as already recommended in para 1.37 of Committee's General Report.
- 9. Tripura is a land of valleys and tillas. Valleys are fully utilized for growing different agricultural crops. The tilla lands are at present not being fully utilized despite the fact that the total surface area of such lands is estimated to be over 60% of the area. The soil is principally lateritic, and free from rocks, the surface being mostly sandy with very little moisture-holding capacity. Iron and Aluminium congregations are frequently observed at good depths.
- 10. Two factors stand in the way of cultivation of Tilla land in Tripura, viz. (i) the difficulty of providing irrigation water at the top of the Tillas economically, during drought periods and (ii) the high acidity of the soil correction of which can also not be an economical proposition. Thus to derive the maximum benefit from each available land the best way seems to be to grow such agro-horticultural crops which can withstand drought and high soil acidity. As far as horticulture is concerned there are a number of fruit plants, plantation crops and spices which flourish under these conditions. Experience has shown that Orange, Pineapple, Litchi, Cashewnut, Pepper and Cardamom do very well. It is doubtful if other agricultural crops can be grown as profitably as the aforesaid fruits and spices plants. Perennial crops like Pineapple also reduce soil erosion.
- 11. The whole of the territory is inaccessible inasmuch as it has no rail link whatsoever—the nearest railway terminus is Kalkalighat in Cachar region of Assam at a distance of about 150 miles

from Agartala. Kalkalighat itself is one of the terminals of the Lumding—Badarpur Hill Section of the N.E.F. Railway. Supplies from the Central Government pool, Calcutta, are sometimes brought through the Pakistan Railways but this source is not entirely dependable.

- 12. As far as the transportation of foodgrains within the territory is concerned, most of the roads in this territory are fair weather Katcha roads and many do not have bridges over streams. Consequently, movement of foodgrains has to be suspended during the monsoon. While steps are taken to stock foodgrains at important centres before the on set of the monsoon, the inadequate number of godowns in far-flung areas is another handicap. This again necessitates transportation of foodgrains in emergent cases by headloads. There are also certain areas e.g., Raima Sarma Valley and Jampui Hills which can be approached only on foot.
- 13. As stated in para 1.21 of Part I of the General Report, the most effective remedy for inaccessible areas is to make them accessible but the phasing of such a programme will, of course, depend upon financial and technical considerations. In such areas, lack of communications is, therefore, the most important problem to be tackled, as no economic development of hilly areas is possible without adequate communication facilities.
- 14. The country side has been denuded of vegetation and soil fertility due to faulty cultivation, as in other inaccessible areas.
- 15. The Committee's recommendations, therefore, are mostly for expanded and accelarated communication programmes and introduction of improved method of cultivation.
- 16. With regard to maximisation of local production, suitable schemes for agricultural programmes are being recommended but care has been taken that these programmes may not result in further soil erosion. Attention is invited to para 1.20 of the General Report of the Committee in which a four pronged drive was suggested as the most practical solution for problems of such areas. Local conditions in this territory are such that every emphasis has to be laid on such a programme of action to be adopted. The four points of the plan recommended are as follows:—
 - (i) Accelerating existing road development programme after re-orientating them where necessary to suit local needs and conditions.
 - (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.
 - (iii) Developments of Horticulture and other plantation crops in areas where agriculture is causing erosion of soil, and implementation of other -non-agricultural programmes to supplement the local inhabitants' purchasing power.

(iv) Executing effective soil conservation measures in close coordination with road, agriculture and horticultural development plans and implementation of afforestation schemes on an extensive scale.

Local Tenure

- 17. Lands in Tripura are held under four different tenures:—
 - (i) Kayemi Taluks i.e., parmanently settled estates comprise an area of about 1.45 lakh acres.
 - (ii) Takshichi Taluks i.e., estates settled for stated periods, mostly for 20 years, with right of renewal, comprise an area of 65,507 acres out of which 54,630 acres are under tea plantations.
 - (iii) Niskar Lands i.e., revenue-free lands held by religious or charitable institution, ex-Government servants or others for past services, cover an area of about 2,956 acres. The bulk of this area is cultivated by tenants or crop-sharers.

The rights of tenants of the estates (taluks) and Niskar lands are regulated under the Landlord Tenant Law of Tripura. Their rights are heritable but not transferable without the permission of the landlord (except where transfer is permissible under custom).

- (iv) Khas Mahals i.e., ryotwari holdings comprise an area of about 2,01,900 acres. These holdings are generally small, but in a few cases ryotwari holders, called jotedars hold comparatively larger areas. The rights of ryotwari holdings are not defined in any statute but they usually enjoy by custom permanent, heritable and transferable rights. Some of them lease lands to tenants or crop-sharers.
- 18. The present system is very complicated, and is indirectly having an adverse effect on Agriculture Production. The Committee understand that the Tripura Land Revenue and Land Reforms Bill has already been introduced in the Parliament. The Bill provides for abolition of intermediaries, regulation of rights of owners and tenants, fixation of ceilings on existing holdings and future acquisitions and prevention of fragmentation. It also seeks to consolidate and codify the law governing the land revenue administration in the territory. The Committee are of the opinion that the early implementation of the provisions of this Bill are of great importance.

Existing Food Production Programme

19. The geographical area of the Territory is about 26.34 lakh acres and the net cropped area is 5.65 lakhs. The general scheme for food production such as (i) supply of improved seeds; (ii) popularisation of the use of fertilizers and manures including green manuring, (iii) increasing areas under minor irrigation, (iv) use of improved implements and, (v) plant protection, have been adopted. The progress in the implementation of these schemes however has until recently not been satisfactory. Propaganda and demonstrations are now being conducted.

Communications

- 20. As stated in paras 1.21 and 1.22 of the General Report, the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock carts, mule tracks or footpaths. In the case of Tripura, this is all the more necessary as horticulture which will be an important occupation of the people, needs a special co-ordinated programme of communications. Such a programme will enable the cultivator to bring his produce to the marketing and processing centres. Communication plays a vital part in this territory and unless the roads are opened, very little advantage can be derived from the production of cash and food crops.
- 21. The situation as detailed above and the extreme economic backwardness of these areas would justify the development of communications in such areas without reference to the population factor.
- 22. The road programme for the 2nd Five-Year Plan was prepared with the principal object of improving the road communication between Agartala and Sub-Divisional headquarters as well as providing a direct line of road communication with other parts of India. The original plan provision was Rs. 304 lakhs. This amount having proved inadequate for the construction of important roads and bridges, the Government of India raised the plan ceiling to Rs. 350 lakhs against a demand for 404 lakhs. This ceiling was still found inadequate and has now been revised to Rs. 366.62 lakhs.
- 23. In preparing the road programme for the 3rd Plan, due consideration has been given to open up remote areas. The provision made for development of rural roads during the 3rd Plan is Rs. 871 lakhs. This includes the construction of major district roads, village roads, bridges and improvement of existing village roads.
- 24. On account of the limited resources of the territory, it will not be possible to take up any further road development programme during the Third Plan with the result that the road development in some of the inaccessible areas will have to be staggered to the 4th Plan.
- 25. The Committee strongly recommend that the aforesaid proposal for the 3rd plan may be accepted by the Government of India.

Agriculture Development & Research

26. The Committee examined all the schemes relating to Agriculture, Horticulture, Minor Irrigation and Fisheries proposed for inclusion in the Third Five-Year Plan and it was felt that such schemes needed pruning. Accordingly, the outlay on these schemes was brought down from Rs. 243.534 lakhs to Rs. 159,490 lakhs. The Committee recommend the acceptance of such schemes with the

revised outlay. These schemes are falling under the following groups:—

	Amount in lakh							
	Outlay proposed in 3rd Plan.	Revised outlay.	Remarks					
(1) Agro-Economic & Research	4.294	2.590						
(2) Agri. Research, Education & Trg	14.348	9.900						
(3) Improved Seeds	9.308	7.500						
(4) Manure & Fertilisers	11-043	5.900						
(5) Improved Agri. Practices	6.589	5.200						
(6) Plant Protection Measures	32.084	16.000						
(7) Jute Development Scheme	6-418	4.000						
(8) Other Agricultural Schemes	21.500	21 · 500	No change					
(9) Land Reclamation & Soil Conservation	31 · 845	13 • 000						
Total Agri. Schemes	137 - 429	85.590						
(10) Horticulture	48.892	21.900						
(11) Fisheries	25.213	20.000						
(12) Minor Irrigation	32.000	32.000	No change					
Grand Total	243 · 534	159 · 490						

27. In addition, the following schemes over and above the schemes already proposed for inclusion in the Third Five Year Plan are also recommended:—

Schemes for holding demonstrations in accessible areas of Tripura.

(i) It is considered essential that Demonstration Farms should be established under problematical conditions. The cultivators have not yet been fully convinced of the benefits derived from improved seeds, fertilizers and improved agricultural practices. These methods can only be popularised by establishing demonstration farms. This scheme aims at giving demonstrations on the cultivators' plots, supervised by properly trained departmental staff so that the cultivators can be convinced of the latest improved agricultural practices. The scheme should be implemented in different areas which are difficult to approach and where there are no roads excepting foottracks.

Scheme for development of green manuring.

Estimated total expenditure ... Rs. 0.30 lakhs.

(ii) On account of the transport difficulties, the carrying cost of fertilizers is exorbitant. Further, the supply of fertilizers to the inaccessible areas becomes almost impossible during the monsoon. On account of the high cost of chemical fertilizers and also on account of their irregular supply, the cultivators do not adopt proper fertilising programmes. It is considered absolutely essential to

supply such fertilizers to the cultivators of the inaccessible areas which are readily available and are cheaper than the chemical fertilizers. It is accordingly intended to introduce green manuring programme on an intensive scale. The seed multiplication programme of the green manure seeds (Dhaincha) is also intended to be taken up in the territory itself so that the transport charges may be eliminated and the cost of the seeds reduced.

Scheme for Plant protection measures.

Estimated total expenditure Rs. 4 lakhs.

(iii) The purchasing capacity of the local farmers is meagre and the landing cost of pesticide, fungicides and plant protection equipment is very high. As such the cultivators of this territory deserve special consideration. It is recommended that transport cost of pesticides fungicides and equipment, upto their distributing centres may be subsidised so that they could be available to the cultivators at a price within their means.

Scheme for land reclamation and development

Estimated total expenditure Rs. 8 lakhs.

(iv) To bring culturable waste land and un-classified forest areas under cultivation and soil conservation, a planned phase of land reclamation may be chalked out. After the land is reclaimed, it may be developed by means of agronomical measures to make the land fit for normal cultivation. Earth-moving machinery may be used, wherever possible, to reclaim the land. After the land is prepared, some post reclamation measures may be taken up to bring the disturbed soil into standard level of fertility. In the development scheme, out of the total cost of reclamation Rs. 250 per acre may be borne by Government and the rest by the beneficiaries.

Scheme for development of cash crop and soil-seeds.

Estimated total expenditure Rs. 2.4 lakhs.

(v) There is ample scope of improving the yield of crops like sugarcane, pulses and oilseeds. The scheme aims at providing seeds at cheaper rate and also to demonstrate the utility of fertilizers and improved agricultural practices to the cultivators. The scheme is divided into two parts viz. (i) to have Multiplication Centres in the cultivators plots under the supervision of trained staff and (ii) to distribute seeds from these Multiplication Centres to the cultivators at a cheaper rate.

Scheme for cotton development.

Estimated total expenditure Rs. 2.6 lakhs.

(vi) The short staple variety 'Comilla' is the main cotton crop cultivated in Assam, Tripura and Manipur. It is most suitable for a high resilient material such as is used in blanket manufacture. It is also used for manufacture of other woollen fabrics and felts. Concerted efforts for the development of Comilla cotton have not been made in the past. The scheme aims at improving the quality and increasing the production.

Scheme for the setting up of three model orchards.

Estimated total expenditure Rs. 2.36 lakhs.

(vii) Three orchards of 10 acres each are proposed to be established in an accessible area to demonstrate to the cultivators the scientific way of fruit growing. It is intended to grow mainly those fruits which do not require much irrigation and care. This is necessary in view of the fact that irrigation on tilla land is not always economical.

Scheme for the establishment of cashewnut pilot processing plant.

Estimated total expenditure Rs. 3 lakhs.

(viii) There are large potentialities in this territory for the cultivation of Cashewnut. During the last two or three years, efforts have been made to increase the area under Cashewnut. One thousand five hundred pounds of cashewnut seeds are distributed annually on 50% subsidy. Besides, a new scheme on the cultivation of cashewnut will start functioning in 1960-61. So far an area of about 1,000 acres has been brought under this crop. Some of the plants have already started fruiting. It will, therefore, be useful if a Pilot Processing Plant for cashewnut is started in 1961-62.

Scheme for demonstration and training in preservation of fruit and vegetable on home scale.

Estimated total expenditure Rs. 0.80 lakh.

(ix) The object of the scheme is to encourage preservation of fruits and vegetables for home consumption and from wastage.

Scheme for development of spices.

Estimated total expenditure Rs. 1.30 lakhs.

(x) There is great scope for the cultivation of spices like cardamom, black pepper, cloves and nutmeg. Six pilot development centres will be set up to demonstrate the cultivation of cardamom and black pepper.

Scheme for kitchen gardening competition.

Estimated total expenditure Rs. 0.20 lakh.

(xi) There is a great dearth of vegetables in Tripura. The purpose of the scheme is to create interest amongst the people to start raising vegetables in their compounds. It is intended to give seeds of the improved varieties of vegetables and also fertilizers and manures on 50% subsidised rates.

Scheme for the establishment of experimental station for new plants.

Estimated total expenditure Rs. 0.80 lakhs.

(xii) There are a large number of varieties of fruits and other horticultural plants which have not been introduced in this territory. Before recommending to the farmers any particular species, it is necessary to test its performance. It is intended to have an area of 25 to 40 acres where all available varieties of horticultural plants to be procured from various States will be grown in block system.

Scheme for development of cashewnut.

Estimated total expenditure Rs. 21 lakhs.

(xiii) There is great scope for the cultivation of cashew nut not only because of suitable soil and climatic condition but also because a large area of tilla land is lying un-cultivated as these cannot be usefully put under other agricultural crops. It is proposed to bring 10,000 acres under cashew.

Development of Fisheries.

Scheme for fishery extension work in blocks.

Estimated total expenditure Rs . 2.8 lakhs.

(xiv) For the successful implementation of the fishery schemes by Gram Panchayats, it is necessary to have one fishery extension unit in each block to render necessary technical advice on the spot and to assist the Gram Panchayats in selecting suitable sites and in reclamation for fish culture. The Extension Unit will also organise fishermen Co-operatives and fishing group within the block area. In addition to this, the private enterprise will also be rendered technical assistance in pisciculture. A thorough survey of all the cultivable water area in blocks and the derelict water areas which can be rendered suitable for fish culture, will be undertaken by the Fishery Extension Unit. Besides the above, under each unit there will be a fry distribution centre where fry would be raised locally and distributed to the fish farmers within the blocks.

Scheme for training in fishery science.

Estimated total expenditure Rs. 0.40 lakh.

(xv) It is intended to train officers of the rank of Fishery Extension Assistants in the Inland Fishery Training Course at Calcutta to start the Fishery Extension Programme in the Blocks of the Territory.

Scheme for the development of Rudrasagar lake fisheries.

Estimated total expenditure Rs. 4 lakhs.

(xvi) The scheme has been formulated with a view to stocking the lake with adequate quantity, of fairly large sized fingerlings. Rudrasagar has an average water area of 1,500 acres. At the rate of 500 fingerlings per acre, 7,50,000 fingerlings would be minimum requirement for stocking the lake annually. Adequate nursery space to raise the fingerlings has been provided in the scheme. It has also been proposed to locate an artificial breeding centre within the lake with an attached laboratory to raise the fry locally. It is also proposed under the scheme to conduct tagging experiments on some of the economical species of the lake.

(xvi) (i) Besides the above, it is proposed to introduce cyprinus carpio into the lake and the nursery space available would be used round the year for raising fingerlings to be stocked in other water areas.

Animal Husbandry and Dairying.

(xvii) The Committee strongly recommend the acceptance of the schemes of Animal Husbandry and Dairying already proposed for inclusion in the Third Five Year Plan. Over and above such schemes, the Committee also recommend the following schemes:—

Scheme for development of poultry.

Estimated total expenditure Rs. 5.56 lakhs.

- (xviii) In inaccessible areas, preferably in Amarpur and Sabroom Sub-Divisions, it is intended to start 10 poultry development centres. The phased programme is two in each year in the course of five years.
- (xviii) (i). Each proposed poultry developed centre will consist of a poultry demonstration unit with 50 laying stock (45 hens and 5 cocks) with necessary housing, hatching and breeding arrangements. In a compact area surrounding each of these demonstration unit, 100 trios, and 2,500 hatching eggs will be distributed taking care to see that for every exotic cock distributed with the trios, one desi cock will be sold off for table purposes, the idea being the exotic cock thus distributed will breed among the exotic hens and also among the desi hens of the locality.
- (xviii) (ii). Graded eggs produced in this poultry development centre will be hatched out in the poultry demonstration unit. After some time when the villagers become more responsive and after they have learnt some of the principles of poultry husbandry from the poultry demonstration unit, incubators and breeders will be provided so that they can do their own hatching and breeding.
- (xviii) (iii). After the scheme has been functioning for some time, it is expected that it will be easy to extend the activities of these development centres to a wider area.

Scheme for the setting up of a buffalo breeding farm cum fodder demonstration farm at Raima Sarma.

Estimated total expenditure Rs. 12.68 lakhs.

- (xix) Raima Sarma Valley is about 80 miles from Agartala and the road communication is very bad specially in rainy season when the area becomes inaccessible. One has to walk about 40 miles to reach there from the nearest town.
- (xix) (i). In Raima Sarma, the cattle population comprises mainly of buffaloes. The tribal people are more interested in keeping buffaloes there. The area has a good rainfall and the temperature is quite moderate.
- (xix) (ii). It is proposed to start a buffalo breeding farm along with fodder development farm. The fodder development farm will supply green fodder and silage to the farmers of that area in addition to being of educative value to the farmers of nearby areas who may take up systematic fodder cultivation. The breeding farm will supply breeding buffalo bulls to the farmers of that area to upgrade the local buffaloes. This will improve the present stock there resulting in increase of the milk yield of buffaloes. A milk pocket

will be created in that area. A small creamery will be started along with it when the farm will start production.

Scheme for small creameries

Estimated total expenditure Rs. 1.54 lakhs.

- (xx) There are some milk pockets in Tripura. Due to bad communications, it is difficult for the producers to send milk to nearest market for sale. Cream separating station can be started in these areas with advantage.
- (xx) (i) Cream separating station will be placed in the milk pockets. Two or more villages will form a Co-operative Union, to whom a cream separator will be given. To begin with, these centres will be managed by the Department of the Administration. Gradually these will be handed over to the Co-operative Union. The producers will bring the milk to the centre which will be tested. Price will be paid on fat test. Each producer's milk will be separated. The skim milk will be sold back to the producer at a very nominal price. Twenty cream separators will be distributed in the first year and the remaining ten in the second year. The cream produced in these centres will be brought to the ghee heating centres. There will be ghee heating centre for every ten cream separating stations where ghee will be produced for sale. The ghee residue will be sold as cattle feed and poultry feed.

Scheme for ghee heating centre at Kumarghat

Estimated total expenditure Rs. 4.60 lakhs.

(xxi) One big ghee heating centre can be established at Kumarghat forthwith. This centre will draw milk from both Kallashahar and Dharmanagar Sub-Division. This can later be converted into a Milk Products Factory for manufacturing butter and casein or milk powder when the increased quantity of milk is available.

Scheme for the expansion of present dairy building and equipment to handle 150 mds. of milk.

Estimated total expenditure Rs. 5.30 lakhs.

- (xxii) The present population of Agartala is about 80,000. It will be necessary to extend the present Dairy building and to purchase new equipments, so that this dairy can handle about 80 mds. of milk daily.
- (xxii) (i) The present site has to be filled and levelled to construct new wings. A new laboratory office and new refrigeration machine will have to be constructed. The existing cold storage will also be extended to increase the storing capacity.
- (xxii) (ii) There is one milk van at present for collection and distribution purposes. Two milk vans will be required for the collection of milk and one milk van will be required for the distribution of bottled milk. Another pick up van will distribute the milk to hospitals, and other institutions. The pick up van will also be used as stand-by in case of break down of any other van.
- (xxii) (iii) The existing bottle filler and capper are hand operated. As the bulk supply will not be more than 50 mds. the rest of the L2F&A-9

milk will need to be bottled. A small sized bottle washing machine and a filling machine are required.

(xxii) (iv) The size of the present boiler has also to be increased. Development of Industries

Estimated total expenditure Rs. 0.25 lakh.

(xxiii) There is good number of scattered groups of labourers who are generally employed by the contractors on daily wage basis in the execution of contracts procured from P.W.D. and local bodies. Though these labourers put their labour in the execution of the contract, they do not get the share of profit. With a view to eliminating these contractors and to enable the groups of labourers to procure and carry out the contracts themselves, a few Labour Contract Cooperative Societies may be organised. The Society may be organised with a workable group of workers say 50 to 60 comprising of Masons, Carpenters, and Earth-workers.

- (xxiii) (i) In order to make these societies work satisfactorily the following concessions are required to be given:—
 - (i) Labour Co-operative Societies should be given works as are within their capacities up to Rs. 20,000 at the estimated rate without calling tenders.
 - (ii) As it is difficult for labour contract societies even to find enough money for ordinary working capital, the condition for depositing earnest money may be exempted to these societies.
 - (iii) As the societies will not be able to secure the services of an Engineer on part time or full time basis, the officers of the works and Buildings Department of the Administration may be asked to render all technical help in regard to the execution of the works.
 - (iv) The labour contract societies may not be eligible for loans as working capital initially from the financing agency. So provision of loan upto Rs. 5,000 each is required to be made from the Government at the initial period. This loan is payable in five equal annual instalments.
 - (v) There may be an arrangement for payment of the works completed from time to time.

Scheme for Gur/Khandsari Industry

Estimated total expenditure Rs. 2 lakhs.

(xxiv) The scheme is at present at an experimental stage. Achievement so far made permits setting up of production centres in sugar cane growing areas.

(xxiv) (i) The centres may be handed over to Co-operative Societies to be formed by the workers for production.

Scheme for setting of one Training-cum-Production Centre on Carpentry.

Estimated total expenditure Rs. 1.69 lakhs.

(xxv) The object of the scheme is to train up the local people in the trade of carpentry in order to make them skilled workers for

their gainful employment. Twelve months for normal training and six months for commercial (production) training will be the period of training.

(xxv) (i) The centres may be handed over to Co-operative Societies to be formed by the trainees after completion of training for follow up programme.

Model Scheme for Training-cum-Production Centre on cane and bamboo works.

Estimated total expenditure Rs. 1.14 lakhs.

(xxvi) The raw materials for the scheme are abundantly available. If the local people are trained properly, they can produce cane and bamboo articles during their spare time. The produce is expected to find a good market and this will supplement their earnings. The period of the training is six months.

(xxvi) (i) The centres may be handed over to Co-operative Societies to be formed by the trainees after completion of training for follow up programme.

Forestry Development

Estimated total expenditure Rs. 36.50 lakhs.

(xxvii) There is large scope for forestry development in Tripura. The progress made in the implementation of these schemes during the 2nd Five-Year Plan is good. The targets of some of the schemes, particularly the afforestation scheme, have already been exceeded and there is ample scope for taking up further work. All the afforestation works in this territory are undertaken by the Forest Department. At present Panchayats have not been established in the territory, and accordingly the village forests have not yet been transferred to such organisations.

(xxvii) (i) The activities of the Forest Department are proposed to be intensified by the Administration during the Third Plan. They have proposed 19 schemes at a cost of Rs. 36,49,600 for being included in the Third Plan.

(xxvii) (ii) Under the present conditions, the availability of trained staff as well as of forest labour in this territory is very limited and it will not be possible for the Administration to take any further load than that already proposed in the Third Five-Year Plan of the territory. Under the Third Plan, afforestation programme is to bring under plantation an area that will be approximately three times more than the area brought under plantation during the Second Five-Year Plan. Further, comprehensive schemes for the training of officers in forestry have also been proposed in the Third Five-Year Plan.

(xxvii) (iii) The schemes proposed for inclusion in the Third Plan also inter alia include jhum control scheme, cashew, pepper and coffee plantation schemes, creation of fuel timber, plywood and cane plantations of considerable areas. It will thus not be possible to take up any heavier load by the Forest Department during the Third Five-Year Plan. The Committee strongly recommend that this scheme may be accepted for the Third Five-Year Plan.

Jhum Cultivation

(xxviii) Jhum cultivation is the most widely followed method for agriculture. As already recommended by the Committee in para 1.55 of their General Report, whatever material exists in the way of scientific research in Jhum Cultivation should be converted into definite plans for implementation in areas where Jhum Cultivation is practised.

(xxviii) (i) There is, however, considerable room for improved practices in jhum areas. The Committee endorse the views expressed by Shri M. S. Sivaraman, I.C.S., Adviser, Programme Administration, Planning Commission in his note of April, 1957 (Appendix—Tripura/'A'). It is recommended that the suggestions contained therein may be followed.

(xxviii) (ii) The Committee also recommend that some Jhum land should be taken over by Government for scientific cultivation for demonstration purposes to tribal villagers without giving them the least impression of 'imposition' by Government. It is hoped that seeing better yields in adjoining Government Demonstration Units, will pursuade local cultivators to adopt better techniques.

Financial Implications

- 28. The development of Tripura is the direct responsibility of the Central Government, and hence the question of its being made self-sufficient in as short a period as possible, is of extreme urgency due to the extraordinarily high cost of transportation and resultant subsidy borne by the Centre.
- 29. Although the Committee are not in a position to form an exact estimate of what a special programme is likely to cost for the achievement of the above goal, the following schemes as submitted by the Administration, are recommended for sanction, over and above the proposed revised allocation of Rs. 159.490 lakhs for the III Plan Period:—

Agriculture	55.660	
Forests	36:500	
Animal Husbandry	29.680	
Industry	5.080	126.920 lakhs.

30. During the II Plan period, a total sum of about Rs. 43 lakhs was allocated for Agricultural Development (excluding Forest, Animal Husbandry and Industry). During III Plan period, therefore, for the Agriculture Development a total allocation of Rs. 214.150 lakhs is proposed. Ordinarily, it would not have been feasible for the Committee to recommend a special allocation of the magnitude detailed above, especially keeping in view the pace of expenditure and limited capacity of the Administration to carry out works, but in view of the special circumstances prevailing in Tripura as also its geographical position, the Committee are satisfied that the Administration would be in a position to undertake schemes as envisaged above. We, therefore, recommend that to hasten the achievement of the object of removal of inaccessibility and nearness to 'self-sufficiency' the III Plan allocation to this area should be accepted to the above tune.

APPENDIX-TRIPURA/'A'

NOTE ON JHUMMING IN N.E.F. AGENCY BY SHRI M. S. SIVARAMAN, I.C.S., ADVISER, PROGRAMME ADMINISTRATION, PLANNING COMMISSION (APRIL, 1957).

- 1. 99% of the total cultivated area is under a system of shifting cultivation locally known as jhuming which involves the cutting of trees and plant growth on steep hill slopes during the dry season, from November to March. The jhumed area is cropped for two seasons and then abandoned for some years to enable natural recuperation of soil fertility to take place and the same area is once again jhumed. Jhuming has been extended to most of the areas where it can be conveniently done and with every increase of population the jhuming cycle naturally tends to become shorter. This in affects the level of fertility and results in reduced crop yields and increasing food shortage. The practice involves considerable arduous work during the off-rainy season which also synchronises with the period of other developmental activities like construction of roads, bridle and mule paths, bridges, buildings etc. Movement of officers for local inspection takes place largely in this season and this involves great demand for labour from the local population for carrying baggage and other incidental work. Paradoxically enough every increase in beneficial activity intended to raise the standard of living and span of life in effect affects agricultural production by drawing workers away and thereby depresses the existing low standards.
- 2. It is therefore no exaggeration to say that, in N.E.F.A., life and developmental activities revolve round 'jhuming' for which a practical solution has to be found if food production is to go up without detriment to local development. If the burden of work involved in cutting trees can be lightened and the fertility of the jhumed area improved we should have found the key to the problem of development of backward areas of this type which are inaccessible and will continue to be inaccessible for many years to come.
- 3. As jhuming overshadows every other activity I shall deal at some length with it and with my suggestion for tackling the problem of jhuming in a practical and inexpensive way.
- 4. Jhuming is at once a method of agriculture and a way of tribal life as various communal rites are commonly observed to ensure its success. For instance, as many as ten different rites Rikti, Kombi, Mopun Binyat, Amarat Rannam, Eruk Eri, Pipak, Solung, Etor, are observed by the Miniyongs of Siang Division, in connection with jhuming. Food production in NEF Agency depends almost entirely on cultivation of hill slopes and as these slopes are very steep—often 1 in 2 or 1 in 3—there is no other alternative to jhuming in NEF Agency except near the banks of rivers. It will therefore be wrong to decry jhuming while popularising terrace cultivation in the very limited places where this can be done.
- 5. Apart from this, it is a mistake to assume that jhuming in itself is unscientific land use. Actually it is a practical approach to

certain inherent difficulties in preparing a proper seed bed on steep slopes where any disturbance of the surface by hoeing or ploughing will result in washing away of the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for proper seed bed are achieved with the help of fire. Seeds are dibbled ahead of the onset of the monsoon so that these may not be washed away and this produces a light cover of protective vegetation which reduces erosion of the soil when the heavy rains begin. In most of the interior areas where communication is not developed and no sufficient land suitable for terracing is available, jhuming alone can be done for the present and as such every effort should be made to improve the fertility of the jhumed land.

- 6. At present the restoration of soil fertility depends mainly on the decay of weeds, grasses and leaves and this level of fertility is greatly reduced in two years of cropping. In order to hasten the restoration of fertility, all weeds and grasses in such areas should be suppressed by leguminous cover crops which fix nitrogen in the soil and the non-descript trees which are not all leguminous should be replaced by leguminous shrubs which can be cut or destroyed easily.
- 7. The above objects can be completely achieved by growing in the third year when the jhumed land is left fallow, perennial red gram (Arhar) which may be dibbled by April, 12 inches apart along the contours of slopes and in rows four feet apart. In every acre about one to two pounds of seeds of Calapagonium Mucunoides, a very fast growing leguminous creeper may be sown when the Arhar is about 3 to 4 weeks old. Calapagonium forms a thick matted growth within two months and prevents soil erosion completely and suppresses weeds and grasses. In 1952-53 I have successfully introduced Calapagonium for putting down weeds and grasses in cocoanut, pepper and citrus gardens in areas of heavy rainfall like Malabar, South Kanara and the agency portions of Vizagapatnam District.
- 8. The Arhar will provide extra food for the people, fix nitrogen in the soil and also improve soil fertility by leaf-fall. Calapagonium dries up in December and January and can be therefore destroyed by fire before sowing other crops. Left to itself the seeds get self-sown and the plants fix very large quantities of nitrogen in the soil. A variation of this method will be to grow perennial Arhar and long duration cowpeas in the Kharif season and a pea or gram crops in the rabi season or perennial leguminous shrubs like Tephrosia Candida or Crotalaria Anagyroides which are found to grow very well in NEF Agency and Assam. All the legumes mentioned above will grow upto 4,000 feet and will suit the bulk of the jhumed lands. For areas above this elevation, the choice may be made from local legumes.
- 9. Though prima facie these suggestions can be implemented even without conducting preliminary experiments, it is desirable that the Agricultural Department should carry out such experiments in selected jhumed areas so that the tribals are actually convinced of the merits of the recommendations. Yearly soil analysis

from the first year of jhuming will throw light on the extent of decline in soil fertility by cereal cropping and the improvement that takes place from growing legumes and this will help to fix the period of jhum cycle necessary for resuming cereal cultivation.

- 10. While experimenting to determine the minimum duration for a jhum cycle, it should be possible to combine observations on the effect of growing legumes after complete destruction of the trees in a portion of the jhumed area by using an arsenical preparation like the Atlas tree killer. This is a simple method of killing a tree and all that is required is to ring bark a narrow strip and apply the chemical to the Cambium with a brush and the tree including the roots will be killed in due course. When trees are destroyed in this manner every care should be taken to see that those held sacred by the tribals are not interfered with. As and when the tribals are convinced of the efficacy of the method of restoring soil fertility by growing legumes without waiting for years, it will not be difficult to restrict the use of the chemical to existing jhumed lands with a view to prevent large scale destruction of trees in other areas. Ultimately the shifting of cultivation will stop and the jhumed land will be cultivated from year to year with cereals followed by legumes or a mixed crop of cereal and pulses. There is no doubt some loss of fertility by soil erosion when weeding is done; but this may be offset by incorporating into the soil composts or leaves of legumes at the time of weeding. When communications are more fully developed and marketing facilities are available, it may be possible to grow on the jhumed land valuabale perennial crops like pepper, long pepper, rubber etc. and obtain food from outside in exchange. Such crops will help to reduce erosion but the possibilities of growing these crops will have to be shown in the Government farms.
- 11. The suggestions which I have made, if followed, will help to:—
 - (1) improve fertility of the jhumed land and produce more food;
 - (2) shorten the jhum cycle and thereby enable larger areas to be cultivated in a year;
 - (3) help to grow a pulse crop of arhar cowpeas etc. while the land is allowed to recuperate;
 - (4) minimise soil erosion;
 - (5) eliminate the cutting of trees and thereby enable the raising of a rabi crop and release more labour for other developmental activities; and
 - (6) convert the jhumed lands into areas of stabilised, permanent cultivation.

INACCESSIBLE AREAS COMMITTEE REPORT PART H

5. UTTAR PRADESH



HILLY DISTRICTS OF UTTAR PRADESH

General Observations

The Inaccessible Areas Committee visited the Hills Division of Uttar Pradesh according to the programme drawn up by the State Government. The problems which are in consequence of the inaccessibility of this region are, in a broad sense, the same in all districts. Variations exist only in the degree of severity of adverse conditions. The comparative prosperity of some Almora valleys may, however, be a possible exception to this general observation.

- 2. The hilly region of U.P. is mostly comprised of Nainital, Almora, Tehri Garhwal, Garhwal and Dehradun districts and the area as a whole is bounded by Tibet on the North, plains of U.P. on the South, Nepal on the East and Himachal Pradesh and Punjab States on the West, and amounts to 19,360 sq. miles. According to the draft of the Second Plan, the daily consumption per capita is recommended at 15.5 ounces of foodgrains and 2.8 ounces of pulses. Applying this formula, and providing a margin for likely increased consumption per capita, and increase in population the total demand by the end of the Plan period is calculated at 4.72 lakh tons. Estimated local production is expected to be 2.22 lakh tons and the shortage of 2.50 lakh tons will have to be met either from neighbouring districts or other resources.
- 3. According to the terms of reference, only the hill districts of U.P. come under the purview of the Committee's investigation and as such, necessary information only with regard to the Districts of Nainital, Almora, Tehri-Garhwal, Garhwal and Dehradun was furnished to the Committee and considered by it. It was subsequently brought to the notice of the Committee that in some other cases, although entire districts are not inaccessible, certain areas namely Robertsganj of District Mirzapur, Pattha area of District Banda, and Ghar area of District Saharanpur also fall under the category of 'inaccessible areas'. The Committee, however, was not in a position to take into consideration the problems of these areas while formulating their recommendations, as they do not come within the purview of their terms of reference.
- 4. As stated in para 1.21 of Part I of the General Report, the most effective remedy for inaccessible areas is to make them accessible, but the phasing of such a programme will, of course, depend upon financial and technical considerations. As in other such areas, lack of communications is the most important problem to be tackled, as no economic development of mountainous areas is possible without adequate communication facilities.
- 5. The Committee investigated the existing plans for development of communications either from State plan funds or special Central Grants, and whether it would be possible to enhance existing targets. and, it so, what would be the requirements for additional funds and the period over which the programme could be phased.
- 6. It was found that the State Government are alive to the need of development of communication in the hill areas. Besides Rs. 288.18

lakhs provided in the Second Plan, an allotment of Rs. 20.00 lakhs has been made for this purpose out of the Special Loan Assistance of Rs. 2 crores sanctioned by the Government of India. It has not been possible for the State Government to do more, because of lack of finances.

- 7. It was brought to the Committee's notice that development programmes including those pertaining to communications have not been equitably distributed amongst all the Hill districts of the State. The Dehra Dun district has not received as much attention as some of the other districts. The Committee will recommend that such complaints should be taken into consideration and, wherever justified, should be removed.
- 8. It was found that some roads constructed through 'Shramdan' have not been taken over by the State P.W.D. due to financial or administrative difficulties and they are rapidly falling into disrepair. Such instances suggest a lack of coordination at the planning stage. The almost universal practice, of constructing 'Shramdan' roads at official or non-official instance, without prior consideration of subsequent maintenance and improvement, should end as it will most likely lead to the masses losing faith in 'Shramdan'.
- 9. The question of installing ropeways in very difficult and remote terrain has also been examined by the State Government, but the proposal has not made much headway, owing to financial difficulties, lack of technical know-how and restrictions on foreign exchange.
- 10. The economic problem of U.P. hills is similar to other such regions and the poverty is mostly due to extreme soil erosion. The countryside has been denuded of almost all vegetation and soil fertility due to faulty cultivation, and the absence of effective terracing, and afforestation programmes.
- 11. The Committee's recommendations, therefore, are mostly for an expanded and accelerated communication programme and introduction of soil conservation and afforestation measures as a long-term policy. The loss of soil fertility is so severe that in certain areas there is a strong demand for transfer of population to the plains. This example is quoted only to show that in many cases devastation through soil erosion has been severe enough even to convince the extremely conservative hillman that further efforts at cultivation in this existing holding will be fruitless. To a large extent cultivation in such areas hardly yields enough to provide two to four months food to the cultivators. This has resulted in large numbers of local hillmen seeking domestic employment in the plains or to join the Defence Services for supplementing their income.
- 12. With regard to maximisation of local production, suitable schemes for minor irrigation and other agricultural programmes are being recommended but care has been taken that these programmes may not result in further soil erosion.
- 13. It was suggested to the Committee that due to the extreme poverty which prevails in these areas, at times there is a tendency amongst the local cultivators to misuse loans, subsidies etc. for purposes other than those for which they have been granted. To obviate

any, such misuse of Government aid, the Committee recommend that the State Government, wherever possible, should extend such aid in kind, e.g., fertilisers, seeds, implements, insecticides etc. Similarly it was also proposed that for trainees, system of free board and lodging should replace the advancement of cash stipends.

- 14. Attention is invited to para 1.20 of the General Report of the Committee in which a four-pronged drive was suggested as the most practical solution for problems of such areas. Local conditions in the hills of U.P. are such that every emphasis has to be laid on such a programme of action to be adopted. The four points of the plan recommended are as follows:—
 - (i) Accelerating existing road development programmes after reorientating them where necessary to suit local needs and conditions.
 - (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.
 - (iii) Development of Horticulture and other Plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing power.
 - (iv) Executing effective soil conservation measures in close coordination with Road, Agriculture and Horticultural development plans and implementation of Afforestation schemes on an extensive scale.
- 15. With regard to other programmes of development due importance has been allotted to horticulture and non-agricultural schemes including cottage industries

Existing Food Production Programmes

- 16. The geographical area of these districts is 124 lakh acres and the net area shown is 19.32 lakh acres. The general State-wise schemes for food production such as improved seeds, improved agricultural practices, plant protection, conservation and reclamation of soil, kacha bundhies are also in execution in these districts.
- 17. Keeping in view the local conditions, the food production schemes are generally working satisfactorily. There is reported to be good scope for small kacha bundhies. The culturable wastes in these districts are about 4.85 lakh acres.
- 18. Although the cultivators are generally conversant with the benefit of fertilizers, still very little quantity is used by them. The main bottle-neck is the prohibitive cost of fertilizers. This is due to high transport charges which have to be paid in obtaining fertilizers from the rail-head to the destination. As most of the cultivators are very poor, the demand for fertilizers has been very low. Taqavi loans are also granted for encouraging the use of fertilisers. Recently a scheme has been formulated for subsidising transport of fertilisers in hill areas. Green manuring is becoming popular gradually.

Felling of Forests

19. It is felt that contracts of felling of forests involving small blocks may be given to local Co-operative Societies which may be formed with Government aided capital. This proposal is recommended for consideration along with the proposal that resin extraction and manufacture of terpentine on a cottage scale by Co-operative Societies may also be developed as a programme.

Staff Pattern

- 20. The present tendency to implement the same development and staff pattern in the hills as is prevalent in the plains is faulty. As pointed out in Paras 1.36 and 1.39 of Part I General Report, agricultural research should be carried out in conditions best suited to the rugged conditions of these areas. It is recommended that there should be a provision for 9 Extension Officers. It may be possible to combine the functions of Extension Officers, Soil Conservation and Forests. In that case only 8 Extension Officers would be needed. It is, however, very necessary that the number of Gram Sewaks should be increased from 10 to at least 15 as the present area of a Gram Sewak is very unwieldy and it is not possible for him to give attention to all the villages in his charge. It is also felt that besides jeeps, ponies and horses may be provided for them.
- 21. With the emergence of N.E.S. Block as the Unit for development work, it is necessary that most of the schemes for the hill areas should be executed through the Block Administration. Attempts should, therefore, be made to increase the allotments for different programmes in the budget of the Blocks rather than to establishment of parallel and duplicate organisations. Moreover, attention in the first instance should be devoted to the block area for intensive work. With an increase in resources, various additional schemes can be further extended to non-block areas.
- 22. It will also be necessary to establish Research and processing on Agricultural and Horticultural subjects.

Trade Between U.P. Border Area and Western Tibet

- 23. The apprehension that in course of time the trade between the border area and Western Tibet may be adversely affected has been kept in view in planning the development of that area. The principal commodity which the people of the border areas bring from Tibet is wool. They consume some of it themselves and sell the rest to buyers in this country. Their dependence on Tibetan sources would continue as long as they do not produce their own wool in adequate quantities. In order to make that possible, it is necessary to step up production in the border area and concurrently to upgrade the quality of wool.
- 24. The progressive increase in the number of livestock in the border area has posed the problem of winter grazing. During the summer the flocks are driven up to the high altitude grazing grounds (Bugyals) where forage is to be had in comparative abundance. During winter, however, these grazing grounds become snow bound and the animals have to be brought down in search of fodder. The winter grazing grounds to which the inhabitants of the border areas return with their animals are almost all located in the Tarai and

Bhabar tract of Kumaon. The pressure on those grazing grounds has of late become very great both on account of the increase in the number of sheep and cattle and curtailment of grazing area with progressive reclamation of the Tarai and Bhabar for raising crops and settling displaced persons, ex-servicemen, political sufferers and educated unemployed. The problem of winter grazing for animals from the border areas has thus assumed menacing proportions. An all-out effort is necessary to solve the problem of developing more and improved pastures in collaboration with the Forest Department.

Fall in Recruitment of Army

25. It was represented to the Committee that there was a fall in recruitment to Army from all the Hill Districts of U.P. and that fall had quite a severe impact on their economy, especially in areas which until recently were heavily recruited and depended upon service in the Army as their main supplementary source of income and financial security. In order to see that they should not be deprived of an established vocation without any alternative occupation to help reduce their economic problem, a reference was made to the Ministry of Defence who, in turn, have pointed out that such a fall was the case in the country as a whole. As a matter of fact, while the requirement of recruitment for the whole country in 1958-59, was only about 54% of that in 1957-58 so far as five hill districts of U.P. were concerned, the recruitment in 1958-59 was larger in proportion, i.e., 63% of that in 1957-58.

Central Pattern of Assistance

26. As regards the pattern of Central assistance to be given for schemes in these Districts, the Committee would like to emphasise that the normal pattern applicable to the rest of the country should be relaxed. After taking into account all the circumstances prevailing in the various inaccessible areas, the Committee have come to the conclusion, and accordingly recommend that the pattern of Central assistance should be on the following basis:

Pilot Schemes .. 100% subsidy.

Other schemes 66% subsidy to be shared between the Centre and the State.

27. At present well schemes are subsidised only in the case of those pertaining to foodgrain production. In inaccessible and economically under-developed areas, horticulture plays an important economic part, and therefore, the Committee recommend that schemes for horticulture purposes should be made eligible for subsidy at 33%. The Committee would also recommend that on similar grounds schemes for supply of engines and pumps should be made eligible for subsidy at 66% to be shared equally between the Centre and State Government.

Financial Implications

28. The Committee find it difficult to form a fair estimate of what a special programme is likely to cost for the development of these Districts. As mentioned in the General Report of the Committee (paras 1.13 to 1.15) the Committee have already expressed

their firm opinion that within the resources of normal planning at State level, districts like Almora, Nainital, Garhwal, Tehri-Garhwal and Dehradun can never hope to reach a state of comparative development with more fortunate and better developed areas. The problems of these areas will necessarily have to be deemed National and special provisions therefor made in addition to existing plan schemes.

- 29. In the case of Ratnagiri, the Committee's recommendations were based on per capita basis and it was recommended that in the Third Plan, Ratnagiri should benefit from a Plan allocation which should be 50% higher than what would normally fall to its lot in the Third Plan period. In the case of these Hilly areas districts, the Committee feels that any calculations on per capita basis will not be fair as they are generally very sparsely populated. As such the Committee would recommend that the size of the Third Plan earmarked for these areas may be 3¾ times the size of the Second Plan, on the presumption that the normal increase in the size of the Third Plan will be 2½ times the size of the Second. The same formula may, in a broad sense, be made to apply for other financial assistance extended to these areas by the Government of India.
- 30. The schemes recommended by the Committee involve a total proposed outlay of Rs. 1,237.17 lakhs which can be phased over a period of time according to the availability of the funds. The break-up of the total outlay is as under:—

					.11				Rs. in lakhs
1.	Communication			1/11	140		 	• •	789· 0 4
2.	Agriculture	••				10	 • •	••	225 · 62
3.	Minor Irrigation				¢ HY		 	••	96.00
4.	Animal Husbandry	/ *				P	 		19.63
5.	Fisheries			11210	न खण		 		0.79
6.	Horticulture			ch 4 o	4 414		 		51 · 70
7.	Industries						 		18-39
8.	Soil Conservation	& Aff	oresta	tion			 • •		36.00
							TOTAL		1,237 - 17
								-	

Communications

- 31. Means of communications have generally been inadequate in the hills of Uttar Pradesh in comparison with the plain areas of the State. There are vast stretches of land yet inaccessible both in the interior mountainous areas and the foothills.
- 32. The five hilly districts of Nainital, Almora, Garhwal, Tehri-Garhwal and Dehradun have an area of about 1/6th of the total area of the entire State of Uttar Pradesh whereas the population of these districts is only 4% of the State population. Such a situation makes it necessary for Government to decide that in recognition of the extreme economic backwardness of these hills, and other important considerations, the population factor should not influence any consideration in favour of development of communication in such areas.

It would be appropriate to quote from the draft of the Second Plan as follows:—

"The Nagpur plan of post-war road development laid down as far back as 1943 certain broad objectives for road development in the country. It took a 20-year view and proposed that at the end of this period no village in a well developed agricultural area should remain more than five miles from a main road. With the political integration of the country after partition, it became necessary to take a more comprehensive view of road development, with special regard to the needs of Part B and Part C States and the States affected by Partition. Attention had to be given to connecting these areas more closely with the rest of the country by improving the existing roads and providing the missing links and bridges. This special task has been largely accomplished".

Further on it is said, "The programme takes account of the special needs of background areas which could not be given adequate attention in the first plan".

33. The conclusion can, therefore, be drawn that although the need for opening out these areas has earned due recognition, progress of actual work in the First Plan was not what it should have been. It can also be presumed that since the unit to be linked to main roads has been declared to be the village, sparsely populated areas should not be far behind thickly populated areas in consideration for road development programmes. These regions lie on the northern borders of the country and are Nationally important from strategic point of view. The rail heads in these districts and at Kathgodam, Tanakpur, Kotdwara, Dehradun and Rishikesh and the approach to the interior can only be by road. The position of roads in these districts in 1947 was as follows:—

					Mileage of u motor me roads P				metalled roads with Zila Board
. Nainit	al .					:.	89	63	237
. Almor	a .						135	127	1,102
. Garhw	val .		•		:	• • •	166	331	863
. Tehri-	Garhwal			<i>:</i> .			169	86	_
. Dehra	đun .						131	23	178

This mileage was very insufficient particularly in view of the fact that the population is peppered over long distances of difficult terrain, hill rivulets, dislocating even approach on foot during monsoon months.

34. Development of roads during 10 years, i.e., up to 1956 is indicated below:

Name of district						Motor I	Roads	Bridle Roads		
Na	ıme c	or custr	ict		=	1947	1956	1947	1956	
Namital		• •	•••	•••		89 .	188	305	352	
Almora						135	399	1,229	1,112	
Garhwal						166	233	1,194	1,413	
Tehri-Garhwal			• •	• •		169	169	918	918	
Dehradun			••	••		131	157	211	187	

Government of India have been subsidising several other schemes for, the development of this region and had sanctioned the following amounts in addition to the First Five Year Plan:—

- (i) Improvement of Roorkee-Hardwar-Badrinath Road—Rs. 43.059 lakhs subject to a maximum of Rs. 22.5 lakhs to be allocated from C.R.F. Reserve and the balance to be met from C.R.F. allocations.
 - (ii) Construction of Gulabkoti-Joshimath section of the Chamoli-Joshimath Road subject to a maximum of Rs. 10 lakhs to be met from Central Road Fund Reserve and the balance to be met from the State's own resources.
- (iii) Scheme for roads and bridges costing Rs. 2.5 crores sanctioned as 'Unemployment Relief Scheme' was to be met by the Government of India. The share of the hill districts under this scheme was more than 60% and provided projects in Almora, Garhwal and Tehri-Garhwal Districts. It was brought to the Committee's notice that Dehradun District was not included in this scheme. These schemes are at present nearing completion excepting a few which are held up on account of the finances required to meet increases in costs. This has now been proposed to be met from C.R.F. allocations. The Committee would recommend that all Districts should be included in such programmes on an equitable basis.
- 35. The Second Five Year Plan for roads and bridges provides a total expenditure of Rs. 2.72 crores for the development of communications in the hill districts alone. It is about 20% of the total State outlay on road schemes during the Second Five Year Plan period.
- 36. During 1958-59, a scheme costing Rs. 54 lakhs was sanctioned by the State Government for the construction of roads and bridges on the border areas and it is being implemented.
- 37. Recently Government of India have sanctioned a loan of Rs. 2 crores for the development of backward areas in the State. Out of this a sum of Rs. 33 lakhs has been allocated for the construction of roads and bridges in these areas.
- 38. Most of the works provided in the Second Five Year Plan have been commenced. The Committee was informed that those,

not sanctioned so far, would be sanctioned in time for the next financial year.

- 39. Despite all this effort, vast stretches remain which are still inaccessible, and need immediate attention to be brought in line with the areas which have been fortunate enough to be opened out. The special schemes which have been drawn up over and above existing Plan schemes for the inaccessible areas of Almora, Nainital, Garhwal, Tehri-Garhwal and Dehradun Districts provide for the construction of 940 miles of roads and bridges at a cost of Rs. 789 lakhs. The details of expenditure are enclosed. (Appendix—U.P./'A').
- 40. Construction work in such inaccessible areas is full of difficulties because of non-availability of accommodation for the staff and workmen and shortage of local labour to execute the work. It is essential, therefore, to import outside labour and provide hutments for them. Residential accommodation, even though temporary, will also have to be provided for the supervisory staff. Apart from this, special equipment to facilitate work in mountainous and rocky conditions will also be necessary. It is for this reason that specific provision has been made for these items. Before actual execution of the work is taken up, it will be necessary to survey these projects to prepare proper and detailed estimates. sanction of the scheme, the sanction of the survey for difficult projects should be made available in advance so that it may be possible to arrive at a reliable current estimate of the cost of works. A thorough survey also removes all chances of subsequent change in designs and alignments which at present are not infrequent. The expenditure on surveys will be only to the tune of 1½% of the total cost of the scheme and in the Committee's opinion is more than justified. The total amount of Rs. 789.04 lakhs excludes this expenditure.
- 41. For the execution of these schemes additional technical staff will be necessary, and to begin with, at least one unit of a Superintending Engineer's Circle comprising of five divisions will be necessary. The importance on priority basis of roads recommended by the Committee has been given in Appendix U.P./'B'. The Committee have also drawn up a Master Plan for a period of 20 years keeping in view the extent of inaccessibility of the areas which is also appended (Appendix U.P./'C').
- 42. The Committee's recommendations in respect of various schemes to be taken up for agriculture and allied development of the area under report are given below:—

AGRICULTURAL DEVELOPMENT AND RESEARCH

Scheme for Castor Plantation in Hill Areas of U.P.

43. The requirement of vegetable oils for non-edible industrial purposes is on the increase. In addition to internal consumption, there is a great demand for export of oils and oil cakes which have proved to be excellent foreign exchange earners. Castor oil has been found to possess unique qualities for use in medicine and chemicals and as a lubricant of Aerojet engines and dyeing of cotton, silk and leather goods.

44. At present cultivation of castor is being popularised in all the plain districts of the State with the help of the existing staff. There is a great scope for extension of castor cultivation in the hilly areas up to an altitude of 2,000 to 4,000 ft. It is recommended that castor may be extensively planted especially along the slopes in the five hilly districts of the State, viz., Dehradun, Nainital, Almora, Pauri-Garhwal and Tehri-Garhwal. This scheme may be coordinated with Ericulture scheme also recommended in this report.

Programme

- 45. The National Extension Block should form the central agency for implementation of this programme. There are 93 blocks in the five hilly districts of Uttar Pradesh out of which it is expected that this work can be taken up in about 60 blocks. In the first instance, it is recommended that an area of 50 acres in each block may be taken up as Pilot Scheme and this should gradually be extended to about 200 acres in the 5th or 6th year. The Committee recommends that in this programme free seed should be distributed to begin with so that cultivators may receive an inducement to undertake a new programme. Provision of easily available processing and marketing facilities will be a most essential aspect of this programme. Proposals for the necessary extra staff are appended at Appendix—U.P./'D'.
- 46. The scheme is intended for a period of six years from 1960-61 to 1965-66 and will involve an expenditure of Rs. 10.20 lakhs out of which Rs. 10.15 lakhs may be met by Indian Central Oilseeds Committee by way of assistance. The details of such expenditure are appended. (Appendix U.P./'E').

Scheme for Development of Sisal Cultivation in Hill Districts of Uttar Pradesh.

- 47. Sisal belongs to the category of fibres known as "Hard Fibre" and is obtained from the leaves of different species of the Genus Agave. Of the four species commonly found in India, Agave Sisalanea and Agave Cantala are usually used for the purpose of extraction of fibre. The plant of the Agave species commonly known as Rambans grows all over the hilly areas of the State, and has been completely naturalised. The plant is cultivated on a small scale as a hedge for protection against wild animals or stray cattle. It is an excellent soil binder for arresting soil erosion, and can grow and thrive in poor soil. Agave Sisalanea can be grown in low rain-fall areas but Agave Cantala can usually be grown in areas having a rainfall of 40" or higher.
- 48. Agave is essentially a planters crop and for a successful enterprise pre-planned and systematic cultivation is necessary. This plant will have to be extensively cultivated in lands unfit for foodgrain cultivation. A period of 3 to 4 years must pass before the plants are sufficiently mature for harvesting the leaves. The leaves are harvested by rotation and the plants thrive for a period of 8 to 10 years. Careful planning will, therefore, be necessary in formulation of a programme of planned rotation and spacing.
- 49. From the leaves of Agave species, an excellent fibre, suitable for ropes and cordages of almost all descriptions is extracted. In

other tropical countries like Mexico and British East Africa, the Agave plants are extensively cultivated for the extraction of fibre. India is deficient in hard fibres which are essentially required for cordages, and its demand in foreign countries is equally high. As such the Committee places considerable confidence in the success of this proposal. The staff outlined for the castor scheme can also look after the work of the sisal scheme. It is proposed that this crop may mostly be sown as a border crop so as to serve as a protective hedge also. Some areas, however, be devoted entirely to the cultivation of sisal also. It is desirable to commence this work in the 60 blocks selected for the Castor Scheme. To start with, about 5 acres may be taken in each block which may be extended to about 50 acres by the end of the Third Five Year Plan. Free supply of suckers and bulbils in the first year of the plantation on the lines of the distribution of free castor seed will have to be made in order to serve as an incentive for growing this crop. The Committee also wish to point out the value of this scheme from the point of view of soil conservation.

50. In the initial stages the Governments and private planters of Orissa and West Bengal can be asked to supply suckers and bulbils against cost. Local resources can also be tapped and suckers and bulbils of the species available in Uttar Pradesh may be collected wherever found.

Extraction of Fibre

- 51. In order to avoid exploitation of this raw material by commercial interests outside the hilly areas, it will be necessary to maintain fibre extraction machines at the headquarters of each block. In Orissa, the fibre is extracted from the leaves with a small hand-operated machine which costs about Rs. 25. A number of machines needed for extraction of fibre in every block according to the area under plantation will be necessary. Hillmen, especially in remote under-developed areas, remain idle for considerable periods and can use the local produce of sisal fibre for making ropes, bags, mats, etc. for which a ready market exists. Sisal fibre, after degumming, has also been found suitable for the manufacture of Canvas, Wagon tilts, Ground sheets, Twines and Hand bags.
- 52. The total expenditure involved would be to the tune of Rs. 0.40 lakhs spread over a six years' period commencing from 1960-61. Details of expenditure are appended at Appendix U.P./'F'.

Scheme for the Establishment of Regional Research Station in Hills

- 53. Five Government Farms of the Agriculture Department have been converted into research stations, viz., Banaras, Amrokh, Hardoi, Nawabganj and Meerut where full-fledged teams of research workers are posted for testing the suitability of the recommendations of research sections under prevailing agro-climatic conditions and also find solutions to special regional problems.
- 54. Somehow, during the Second Plan period similar facilities could not be provided in the hilly areas. Later on such a necessity was to some extent recognised in the face of problems and conditions of hilly areas being vastly different to those existing in the plains. Accordingly one Group I Assistant was posted at Majhera

farm for carrying out research work for the benefit of the hilly region of the State. This arrangement is grossly inadequate in view of diverse conditions, cropping patterns, and problems prevailing in the valley areas and on higher altitudes.

- 55. It is, therefore, imperative that at least one full-fledged Regional Research Station is established in the hilly areas of Uttar Pradesh. This Research Station may be under the charge of a Regional Research Officer who should preferably be an Agronomist. He may be assisted by 3 Group I Assistants and 3 Group III Assistants.
- 56. It will also be necessary to acquire 50 acres of land for this station, and some essential farm buildings, laboratory and residential quarters for the staff would also be required in addition to the provision of irrigation facilities.
- 57. The estimated expenditure during the 6 years from 1960-61 to 1965-66 would be approximately Rs. 5.512 lakhs out of which approximately Rs. 2.296 lakhs would be required during the first year. The details of expenditure are shown in Appendix U.P./'G'.

Potato Development and Seed Multiplication Scheme

- 58. Considerable scope exists for the development of fruits and vegetables including potatoes, so as to provide a minimum of 3 ounces of fruits, 7 ounces of vegetables, and 3 ounces of potatoes, per capita per day. There are still certain areas which have not yet been fully developed on account of their inaccessibility but are immensely suited for the production of potatoes and may now be developed on scientific lines.
- 59. In Uttar Pradesh the potato covers about 2.5 lakh acres, as an important cash crop. In the Third Plan it is hoped to increase this area to 6 lakh acres for self-sufficiency in potato consumption. The requirement of seed alone, which in its first stage should come from the hills, will be a formidable problem. Higher altitudes which are specially suited for raising of disease-free quality of seed potatoes can, therefore, very well be developed for potato seed multiplication of the latest varieties.
- 60. At present, several local varieties are grown in these regions which are very poor yielders and highly infected with diseases. During the last few years these varieties are slowly being replaced by better ones and some increases in yields have also taken place. In Himachal Pradesh, improved varieties have replaced above 60% of the local varieties sown there, with the result that Himachal Pradesh has now built up a Nation-wide market for the supply of improved seed. There seems to be no reason why the potato growers of U.P. should not share the dramatic economic advancement which potato growers in Himachal have had the good fortune to enjoy in similar agro-climatic conditions. A scheme to make the hilly zone of U.P. self-sufficient in improved seed and eventually a supply zone for the plain areas of the State is therefore overdue.
- 61. In order to make this scheme effective, it would be necessary for a net work of potato seed multiplication farms to be established where transport facilities are likely to be provided in the near future.

These farms will produce stocks of potato seed and also serve as demonstration centres for other horticultural activities. A survey of the area, to locate the centres with this in mind, should be made as soon as possible.

- 62. It is recommended that four farms of 10 acres each in each of the five districts may be established covering a total area of 200 acres. The yield of foundation stocks at these farms can be estimated to be about 20,000 maunds. This stock can be distributed to registered growers of these areas for further multiplication. It is expected that about 2,00,000 maunds of seed potatoes will ultimately be available for replacement of local varieties in the hills and for distribution in the plains of the State or for export to other States. As a short term plan, much can be done immediately to intensify cultivation of this crop by affording some financial assistance to the cultivators. Lack of fertilizers appears to be a very serious bottleneck in producing good yields of potato in these hilly and inaccessible tracts, and to increase the average yield a liberal application of fertilizers is necessary. It is, therefore, recommended that a subsidy of Rs. 2 per maund should be granted on the transport of 5,120 maunds of fertilizers annually for intensive cultivation of potate over an area of 1,280 acres. This subsidy on fertilisers would amount to Rs. 10,240 annually. Similarly, it will be necessary to subsidise the transport of insecticides for which a provision of Rs. 8,000 annually has been included.
- 63. The foundation stock produced at the centres will need scientific storage for distribution to registered growers, in the following sowing season. Government will, therefore, have to provide adequate storage facilities. With regard to seed produced by the Registered growers, it will not, however, be possible for Government to purchase the produce and arrange for its disposal in the plains. It is, therefore, proposed that marketing of potatoes produced by Registered growers in these areas should be undertaken by the Cooperative Department.
- 64. This scheme may be directly controlled by a Potato Development Officer (Inaccessible Areas) who can be from the Junior Class II Scale. He can be assisted by five District Potato Development Inspectors (Group II) in each district, and one Potato Development Inspector Group II at Headquarters, along with adequate technical and non-technical staff. Godowns for storing potatoes have also been provided in the scheme.
- 65. The expenditure of the scheme amounting to Rs. 36.24 lakhs is detailed in Appendix—U.P./'H' which can be incurred in six years from 1960-61 to 1965-66.
- Scheme for the Establishment of Multi-purpose Farms in Jaunsar-Bawar Areas.
- 66. The Jaunsar and Bawar area of the Dehradun District in U.P. is very backward in agricultural development. The main reason for this backwardness has been the absence of a local multi-purpose farm to demonstrate the usefulness of improved agricultural and horticultural practices. Four such farms, sanctioned last year, will mainly be utilised for building up disease-free seed stocks of potato.

They have, therefore, necessarily to be located at Higher altitudes only. In order to meet the requirement of lower and medium altitudes of this area, it is essential to start two more farms. The function of these farms will be to act as demonstration centres where all agricultural and horticultural practices, as suited to that area, will be suitably demonstrated.

67. The details of the expenditure of Rs. 3.38 lakhs involved are given in Appendix—U.P./'I'.

The scheme is intended to be spread over a period of six years. Bench Terracing Scheme for the Hilly Areas of U.P.

- 68. The importance of bench terracing has already been referred to by the Committee. This subject has been neglected in the past to an extreme that has mainly resulted in the present devastated soil conditions. Very serious damage has already been done to soils by cultivation on faulty or unterraced land. Even in these places where terracing has been attempted, it has been half-hearted and not on scientific lines. The slopes of the terraces are such that rain carries soil unrestricted into the rivers below. Almost every hill side in the entire region shows signs of such terracing having resulted in progressively poor soil fertility after every monsoon until ultimately the fields were abandoned.
- 69. It is recommended that an area of about 2,500 acres be taken up each year on watershed basis and bench terracing be carried out in areas where no terracing has been undertaken at all, and the existing terraces modified in such a way that erosion of soil is minimised.
- 70. For obvious reasons any scheme of soil conservation in the hills must be planned on a long term basis. It is recommended that a plan for the next 20 years, at the rate of 2,500 acres per year be taken up, so that at least 50,000 acres are properly terraced. During the course of this work, it is expected that cultivators, who can afford to do the work themselves, will follow the newly established system after seeing its favourable results and the scheme will become self-propelling.
- 71. The work under this scheme can be taken up on the Bombay pattern, i.e., all the work in connection with soil conservation is done by the Department and recoveries of the cost made from the cultivators in easy instalments. The cost of terracing in the hills is approximately Rs. 1,000 per acre. As recommended in the case of Ratnagiri District of Bombay, substantial subsidy to be given to the cultivator will be necessary. Because of the difficult terrain in the hills, the staff needed should be more than that for the same area in the plains. One Soil Conservation Officer for the five districts will be enough but it will be necessary to have an Assistant Engineer and one Agronomist (in Group I of the S.A.S.) in each district.
- 72. The total cost of the scheme works out to be approximately Rs. 169.90 lakhs out of which Rs. 28.27 lakhs will be needed till the end of the Second Five Year Plan. The financial aspect of the scheme is shown in Appendix—U.P./'J'.

73. The above schemes relating to agricultural development will involve an outlay of Rs. 225.62 lakhs as indicated below:—

S. No.	Name of Scheme	District to which it concerns	Outlay (Rs.)	Details in Appen- dix U.P.	Remarks
1.	Castor Plantation	1. Dehradun 2. Almora 3. Nainital 4. Garhwal 5. Tehri-Garhwal	10.20	'E'	Indian Central Oilseed Committee's share Rs. 10,15,400.
2.	Sisal Cultivation	Dehradun Almora Nainital Garhwal Tehri-Garhwal	0-40	'F'	Staff recommended for Castor plan- tation Scheme will look after this scheme also. Includes subsidy of Rs. 12,000.
3.	Establishment of Regional Research Station.	Do.	5.51	'G'	
4.	Development of Seed Multiplication.	Do.	36-24	'Н'	Includes subsidy of Rs. 1,09,440.
5.	Development of multipurpose seed Farm.	Dehradun	3.37	.1.	
6.	Bench Terracing	1. Dehradun	169.90	.3,	
		2. Almora	No.		
		3. Nainital	2.5		
		4. Garhwal	जगरी		
		5. Tehri-Garhwal.			
		TOTAL Rs.	225 · 62	Lakhs.	

Minor Irrigation

74. The possibility of extending minor irrigation facilities to cover all such areas which can possibly be irrigated from hill streams was examined. It was found that several minor dam surveys have either been recommended or carried out for development of power and irrigation. The Committee recommend that, in order to step up food production, minor irrigation schemes should be spread out in all the deficit areas. Besides State works, there is sufficient scope for minor irrigation schemes in the private sector. For this work, the Committee recommend Taqavi loans etc. as the people in such areas are exceptionally poor and as such they cannot afford any large investment.

75. The Committee are alive to the difficulties facing development programmes of minor irrigation in these difficult areas. The most serious problem is the economic aspect of minor projects in

difficult areas. Maintenance after every monsoon is another problem. A popular local demand which is universal in all areas is for water to be pumped from hill rivers to higher levels for gravitational supply in lower regions. Various forms and types were suggested to the Committee and such proposals were discussed at length with the experts of the State Government. By and large one has to come to the conclusion that in hilly areas economic considerations should be relaxed far beyond the standards which are in vogue for plain area schemes. Schemes of various types of pumped, gravitational and other types of minor irrigation are being recommended. Due to soil erosion these areas are very dry during non-monsoon periods and as such no effective programme of agriculture or horticulture development can be launched with success without provision of adequate irrigation facilities through minor irrigation programmes.

76. Besides State works, there is sufficient scope for minor irrigation schemes in the private sector as well as under 'Grow More Food'. A scheme is under operation in Tehri-Garhwal of allowing subsidy (at the rate of 50% of the cost) on construction of tanks and guls through Gaon Sabhas. This subsidy is allowed on completion of works. As the people in the area are generally poor, it is difficult for them to make any large investments. It is, therefore, recommended that taqavi loan at the rate of Rs. 500 per acre, benefiting for 10,000 acres may be allowed in the five hill districts. The total amount of taqavi required will be Rs. 50 lakhs of which Rs. 10 lakhs may be advanced up to 31-3-1961 and the balance in Third Plan. Provision will also have to be made for allowing subsidy of Rs. 25 lakhs for these works. The subsidy will be shared half and half by the State Government and the Government of India. Rs. 5 lakhs of the subsidy will be required by March, 1961 and the balance in the Third Plan.

77. The entire scheme will involve an expenditure of Rs. 21 lakhs, besides Rs. 75 lakhs required for Taqavi loan and subsidy. Details of expenditure are given in Appendix U.P./'K'.

ANIMAL HUSBANDRY

Scheme for Development of Backward Areas of Hill Districts in Uttar Pradesh.

- 78. It is felt, that abundance of forest and good grazing areas if scientifically planned can be of great help in increasing Animal Husbandry activities in these areas which will go a long way towards the economic betterment of these areas.
- 79. A modest beginning towards improved animal husbandry practices in this area was made during the First Five Year Plan by way of introducing an integrated plan for the development of Sheep and wool industry and other livestock in the hills. Under this scheme, a Central Sheep and Wool Research Station was established at Pashulok (Rishikesh), and a Cattle Breeding-cum-Dairy Farm was opened at Kalsi in District Dehra Dun, in addition to starting a number of Sheep Farms, Stud Ram Centres, Stallion Stands, Quarantine Station and Poultry Demonstration Units. Subsequently steps were taken to intensify work in border areas. Thus

a nucleus for the development of Animal Husbandry activities in the backward hill areas has since been created, and it is time that the work is further intensified in the surrounding areas on the basis of experience gained so far.

80. It is, therefore, recommended to take up the following new schemes during the next five years (i.e., 1960-61 to 1964-65):—

1. Cattle Breeding

- 81. Shortage of good quality bulls is the main handicap in the development of cattle wealth of the State. Systematic and Scientific breeding of cattle is the only possible way to meet this situation. The milk yield of cattle in the hills is appallingly low and the efforts made to increase it by distribution of stud bulls have not given the desired results on account of the inability of people in this area to feed them properly. Bulls of breeds from plains have not thrived well due to inadequate nutrition and improper arrangement and local difficult terrain and climatic conditions. With a view to expanding the cattle breeding activities in the hills and carrying on cattle development work more intensively in selected areas, it is desired to establish:—
 - (a) One Artificial Insemination Centre with 10 Sub-centres during 1960-61.
 - (b) Seven Cattle Breeding Extension Centres—3 Centres during 1960-61, and the remaining 4 during 1961-62 and 1962-63 at 2 Centres in each year.
- 82. The A.I. Centre will have 4 bulls for A.I. and there will be 20 bulls in sub-centres for natural services. There is provision in the scheme for feeding of these bulls by giving a subsidy @ Rs. 45 p.m. to the breeder who maintains them. The size of cattle breeding extension centres has been reduced and 10 bulls are proposed to be maintained in each centre in view of the peculiar topography of the area. Full maintenance staff and buildings are provided for looking after the bulls. This as said earlier is essential on account of the poverty of the area. The total cost of the scheme is as follows and the details of expenditure are appended (Appendix—U.P./'L'):—

			Rs.
(a) Cost of One A.I. Centre with 10 Sub-centres	 	• •	 2,06,300
(b) Cost of 7 Cattle Breeding Extension Centres	 	• •	 7,00,800
		TOTAL	 9,07,100

2. Improvement of Sheep & Wool

83. Sheep rearing is the mainstay of fairly large number of villagers in the hill areas specially in the remote regions. The animals maintained by the people are not true to the type. There are at present 21 stud ram centres in the hills for distributing good quality stud rams. The measures so far adopted in this connection are, however, not sufficient to meet the increasing demand of hill people in respect of good stud rams. With a view to upgrade the local stock for meeting the increasing demand of good stud rams, it is

recommended (1) to establish 4 new stud ram centres—2 in 1961-62 and one each in 1962-63 and 1963-64, (2) to improve the condition of 2 of the existing stud ram centres in the hills during 1960-61.

- 84. To supplement present efforts, it is recommended that 500 sheep, i.e., 400 ewes and 100 rams of Polwarth and Rambouillet breed be imported. Their cost will be about Rs. 4.00 lakhs for which foreign exchange will be required. It may be added that the quota of sheep to be imported may be achieved, 50% in 1960-61 and 50% in 1961-62. Most of the imported sheep will be located at the Departmental Farms and some may be issued in the field where enough spade work has been done and where people are in a position to look after them.
- 85. The most important aspect of sheep development work is to find out suitable personnel who may be willingly prepared to face the rigours of isolation in far flung areas. These personnel should not only possess training in sheep husbandry but they should also have re-orientation training for cultivating proper approach to the problems in these areas. To meet up this demand, it is proposed that the staff posted at the institutions already established or proposed to be established should be given training at Pashulok Farm. Since no facility of accommodation exists at the Farm, it is imperative to have a hostel for 25 people which is estimated to cost Rs. 0.50 lakhs. The total cost on the items of Sheep and Wool development comes to Rs. 6,20,930 as below:—

Items				Amount Rs.
(a) Establishment of four additional stud ram centres				1,37,930
(b) Improvement of two of the existing stud ram centres				33,000
(c) Import of foreign sheep				4,00,000
(d) Training facilities				50,000
सन्यमेव जयन	Tot	TAL	••	6,20,930

The details of expenditure are shown in Appendix-U.P./'M'.

3. Veterinary Aid

- 86. Large number of cattle breeders in the hills besides the Gujars migrate during the winter from hills to Bhabar and with the onset of rains they move up to the hills with all their belongings which mainly consists of livestock. So far, not much has been done for these people by way of providing veterinary aid and better breeding facilities. It is, therefore, recommended to provide two Mobile Veterinary Dispensaries well equipped with suitable jeeps, one each in 1960-61 and 1961-62. These units will provide prompt veterniary aid at the farmer's doorstep and the nomadic livestock breeders during their stay in the plains and will also carry on disease control work in the vicinity of motorable roads.
- 87. Due to peculiar topography and lack of proper means of transport and communication, it is not possible to provide required veterinary aid to the livestock in hilly areas even by establishing number of veterinary hospitals and stockmen dispensaries. It is also not possible to reach the interiors of the region by jeep or to bring

the animals for treatment to the centre. It is, therefore, desired tomaintain two mule units to cater veterinary aid in the far inaccessible areas where no communication is otherwise feasible. The first mule unit, equipped with staff, equipment and medicine is recommended to be established in the year 1960-61 and the other in 1962-63.

88. The above recommendation involves an expenditure of Rs. 2,88,200 as below:—

				Rs.
(a) Two Mobile Units for Veterinary aid	 		 	2,01,000
(b) Two mule units for Veterinary aid	 *	• •	 	87,200
				2,88,200

The details of expenditure are appended. (Appendix-U.P./'N').

4. Poultry Development

89. In order to improve the economic condition of the people of this area and the nutritional need of their diets, it is necessary to provide this area with an industry that would require limited investment and offer quick returns. Poultry Development activities, if undertaken in these parts can go a long way in providing the people much needed nutrition and also help to improve their economic conditions. The Committee, therefore, recommend that two poultry extension centres in these areas (one in 1960-61 and the other in 1961-62) may be established. In order to meet the increased demand for birds required for these new centres, it is also recommended to expand the housing and breeding facilities at the State Poultry Farms as well. There is also provision for training of breeders in the Blocks, holding of annual shows and purchase of improved birds from breeders for further distribution. Subsidy has also been provided for giving wire netting and other facilities to breeders. The details of expenditure in the above proposal are given in the enclosed statement (Appendix—U.P./'O') the total estimated cost comes to Rs. 1,47,000 for five years.

5. Development of Eisheries in Kumaon Region

- 90. The Fisheries of this region comprise of perennial lakes and snow-fed rivers which are in flood during the rains but hold little or no water in their lower reaches during the rest of the year. There are no indigenous fish except the Mahasser in the lakes of Nainital district and trout in Deodital. Obviously the lakes which hold water all the year round have the best potentialities for fisheries Development.
- 91. To develop the same a pilot scheme as an experimental measure was introduced in this region by importing Mirror Carp from Ootacamand in the year 1947 and subsequently in 1949. Mirror Carp has established itself fairly well in the Kumaon waters particularly in Bhimtal, Nainital, Naukuchia Tal and Sat Tal lakes. Since the beginning was made only on a small scale, the ponds in Bhowali hatchery were deemed sufficient to serve as nurseries but subsequently as the stock was built up nurseries were also established at

Nauldhara and Baijnath. Now with the expanded programme in respect of Mirror Carp culture, it has become obligatory to saturate the population of the waters already tackled and to further supplement the breeding in the lakes with the breeding ponds, where selected breeding stock may be stocked for breeding and rectangular ponds for rearing hatcheries to fingerlings. This would help in not only meeting the demand of those interested in Mirror Carp culture but also in rehabilitating other virgin waters having climatic conditions akin to those already tackled.

92. With the above objective in view, the Committee recommend that breeding and rearing ponds close to Bhimtal and Naukuchiatal may be constructed as per details below:—

(1) Bhimtal

- (a) One circular breeding pond 100 ft. diameter and 7 ft. deep.
- (b) One rectangular rearing pond $100' \times 50' \times 5'$ and drainable with a catch basin at bottom.

(2) Naukuchiatal

- (a) One circular breeding pond 100' in diameter and 7' deep.
- (b) One rectangular rearing pond 100' × 50' × 5' and drainable with a catch basin at the bottom.

93. It is also recommended that one Supervisor in the scale of Rs. 75-5-120 and two Fishermen in the scale of Rs. 30-1½-60/2½-65 p.m. each, at each of the breeding rectangular rearing pond may be provided to look after the departmental activities there. The total cost of the scheme comes to Rs. 78,650 details of which are given in the enclosed statement (Appendix—U.P./'P').

Financial Implications

94. Total cost of the scheme for five years comes to Rs. 20,41,880 (Rs. 8,98,480 Recurring and Rs. 11,43,400 Non-recurring) of which the estimated expenditure for the first year (1960-61) amounts to Rs. 6,56,107 (Rs. 83,807 Recurring and Rs. 5,72,300 Non-recurring) as per details given below:—

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Item .			cost for years	Estimated Expenditure for 1960-61		
		Rec.	Non-Rec.	Rec.	Non-Rec.	
1. Cattle Breeding		5,25,200	3,81,900	54,700	1,89,100	
2. Improvement of Sheep & Wool		69,930	5,51,000	_	2,83,000	
3. Veterinary Aid		2,22,200	66,000	20,800	33,000	
4. Poultry Development		36,500	1,10,500	3,370	50,200	
Total Animal Husbandry Scheme		8,53,830	11,09,400	78,870	5,55,300	
5. Development of Fisheries	•	44,650	34,000	4,937	17,000	
GRAND TOTAL	٠	8,98,480	11,43,400	83,807	5,72,300	

HORTICULTURE

- 95. Development of horticulture is one of the most important programmes of development in the Agriculture Sector. Efforts are being made by the State Government to co-ordinate horticulture development with road construction. This should become an established policy as outlined in the General Report of the Committee. The State P.W.D. have prepared a master plant of road development for 20 years and horticultural development will follow the line of road construction to avoid any marketing bottlenecks when the orchards start fruiting.
- 96. Generally speaking, development of intensified cultivation of foodgrain crops in valley areas, stone fruits in medium altitudes and apples and potatoes in higher regions would best serve as general development pattern for most areas. It is felt that mangoes can be popularised in valleys situated up to an altitude of 3,000 ft. These valleys should be broad enough to escape frost. As the crops in these areas would mature in August-September-October when crops in the plains would be over, continuous supply of mangoes can be ensured to the plains up to October.
- 97. The only apprehension which can arise while recommending rapid horticultural development programme is the fact that local holdings are very small and have poor soil potency. As such it may not be practicable to expect a majority of cultivators, who are already on the brink of semi-starvation, to wait for 4-5 years before the fruit trees commence providing them with results unless some other method is adopted. It may be possible for this difficulty to be overcome with loan schemes with terms more liberal than those offered at present. But it is felt that the burden of unproductive credit used for their maintenance may prove to be very heavy. It should be possible to grow certain crops like potatoes even during the period the fruit plants are growing in the field. Efforts to find out other crops which can be raised in this manner may also be made. The work relating to the establishment of nurseries has already been taken up under the Indo-Tibetan Border Development Scheme. For the development of horticulture, the following action is recommended:—
 - (i) Grant of loans for laying orchards with provision of subsidy for construction of boulder walls. (The possibilities of development of Rambans and Cactus fencing are also being examined by the State Government).
 - (ii) Organisation of Marketing and Transport Societies.
 - (iii) Subsidy on transport of plants and seedlings in the inaccessible areas.
 - (iv) Organisation of Fruit Preservation and Canning Centres and establishment of small Cooperative Canning Factories on the model of Ramgarh Factory.
 - (v) Establishment of Plant Protection Units.

Delay in Transit of Fruits

98. The complaint of the apple-growers of the area regarding the delay in transit is genuine. The matter was taken up with the railway authorities by the State Government and it has now been established that the chief delay occurs at Mathura. The State Government are already taking up the matter with the Central and Western Railway authorities for making suitable arrangements to cut short the delays at this transhipment point. The question of high rate of fare charges by railway out-agency has also been brought to the notice of the railway authorities by the State Government.

Terracing

- 99. The terracing of fields in most areas is very faulty and is bringing about the cultivators' ruin. It is essential to organise terracing demonstrations in different parts of the area where trained personnel may demonstrate correct and scientific methods. It will be necessary to follow this demonstration up with a subsidy/loan scheme which may encourage and enable cultivators to adopt new terracing methods.
- 100. Most of the agricultural fields are adjacent to the forest areas and as such programme of well-planned terraces will have to be co-related with that of the afforestation of upper reaches of catchment areas.
- Scheme for Expansion of Existing Nurseries and Establisment of New Nurseries.
- 101. The total area of Kumaon hills is 117.15 lakhs acres, out of which about 19.6 lakhs acres are under cultivation. Further about 6.4 lakhs acres are classed as culturable waste, which could be developed for agri-horticultural purposes. The total area, thus available for agri-horticultural purposes is estimated to be 26.2 lakhs acres. It is estimated that about 1/10th of this total area, i.e., 2.5 lakhs acres could ulimately be developed for hosticultural purposes in the four hill districts of Kumaon.
- 102. About 30,000 acres have already been planted by the end of the third year of the Second Five Year Plan. In order to achieve a target of putting 1.00 lakh acres under fruits by the end of the Third Five Year Plan, it will be necessary to put additional 70,000 acres during the current and coming Third Five Year Plan, for which the State Government shall require about 80.00 lakhs plants after keeping a margin for casualties. The present nurseries are able to produce about 7.5 lakhs plants per year. With a view to meet the increased demand of 27.5 lakhs additional plants, it will be necessary to expand the existing nurseries and establish new nurseries. It is, therefore, recommended to put under nursery, (a) 10 acres of additional area at the State Orchard, Bharsar; (b) 10 acres at Dunagiri Orchard; and (c) 40 acres in existing and two new nurseries in Tehri and Pauri Garhwals.
- 103. The total cost of the scheme during the year 1960-61 would come to Rs. 2.26 lakhs and during the Third Five Year Plan period Rs. 6.28 lakhs (total Rs. 8.54 lakhs), the details of estimated expenditure are appended (Appendix U.P./'Q'). This scheme will give benefit of increased output of 27.5 lakhs plants.

Scheme for the Development of Bharsar Orchard

104. The State Orchard, Bharsar, having an area of 489.00 acres is situated in the interior of the district of Garhwal, 24 miles away from the District Headquarters—Pauri; the nearest motor-head being at a distance of 21 miles. This area is thus inaccessible and most backward; the people of this area being so poor that they can hardly eat two square meals a day. With a view to improving the economy of that area by increasing horticultural production, and to provide employment to the people, the Uttar Pradesh Government purchased the Bharsar Estate, now called State Orchard, Bharsar, from an Englishman several years ago. So far, due to paucity of funds, it has been possible to establish an orchard only in an area of 127.00 acres with greater emphasis on apple plants—the elevation being 6,000 ' and 7,000 '. If additional funds are made available, it is possible to develop the fruit garden considerably with new plantations in an area of 120 acres.

105. There will be 24,000 fruit plants in the gardens by the end of Third Five Year Plan—12,000 already planted and 12,000 to be planted under the Expansion programme. From the plants when they come to bearing, the State shall be able to have at least 6,000 mds. of fruits. Even if they get only 10 seers fruits per tree; it would give an income of Rs. 1,20,000, calculated at the rate of Rs. 20 a maund. The income would increase in future years, as the plants grow bigger in size. This scheme would not only provide employment to the local people, but would also help in somewhat easing the problem of food production also.

106. As the schemes are to run permanently, and as there are no houses for the members of the staff in the vicinity of the orchard, provision for residential quarters has been made in the schemes. The construction programme has been phased. The financial requirements of the scheme are enclosed. (Appendix—U.P./'R').

107. The total of the scheme during 1960-61 will be Rs. 0.73 lakhs and Rs. 4.28 lakhs for the Third Five Year Plan period (Total Rs. 5.01 Takhs).

Scheme for Distribution of Loans in the Five Hill Districts of Uttar Pradesh.

108. The general poverty in the Hills has been a great handicap in expeditious development in the field of horticulture. Since the initial cost of establishing an orchard is rather prohibitive for the ordinary cultivator in the hills, and as the cultivators have to wait for 4 to 5 years before their trees begin to bear fruits, it is necessary that some financial assistance should be given to the cultivators to enable them to meet the cost of fencing, layout, digging of pits, manuring, and irrigation etc. It is, therefore, recommended that loans may be given to these cultivators for the above purpose.

109. The loan should be interest-free for the first five years and recovery should be effected from the 6th year onwards. The loan may bear rate of interest from the 6th year onwards at 434%, or any rate, which may be prescribed by Government of India.

- 110. It is, therefore, recommended that Rs. 5 lakhs for five hill districts, and Jaunsar Bewar may be provided during the year 1960-61.
- 111. During the Third Five Year Plan, it is also recommended that the loan may be given at the same rate, i.e., 5 lakhs per year, which will amount to Rs. 25.00 lakhs during the entire period of Third Five Year Plan. (Total Rs. 30.00 lakhs).

Details are enclosed. (Appendix-U.P./'S').

- 112. The loan shall be distributed at the rate of Rs. 500 per acre which will cover orchards over 6,000 acres.
- Scheme for Vegetable Production on the "Yatra Lines" in Pauri-Garhwal, Tehri-Garhwal and Almora Districts.
- 113. Pilgrims in large numbers and from all parts of India, as well as some visitors from foreign countries, visit Badrinathji and Kedarnathji in Pauri-Garhwal, Gangotri and Jamnotri in Tehri-Garhwal, and Kailash and Pindari in Almora Districts every year. These Yatrees and visitors face considerable difficulties in getting fresh vegetables throughout their journeys on these routes. In view of this problem, the Committee recommend that a 'Vegetable Production Scheme' may be started. This scheme, if implemented, will not only serve the Yatrees and visitors with vegetables, but would also help in improving the economic condition of the people by way of more income from vegetables, which they would start growing after seeing actual vegetable growing demonstrations, and the benefits of the scheme.
- 114. The working of the scheme will be (1) distribution of vegetable seeds on 50% subsidised rates to the villagers, and technical guidance including plant protection measures in vegetable growing and (2) maintenance of vegetable growing demonstration plots on the fields of local cultivators near each centre. It is intended to have 24 centres in all the three districts. At each centre, there will be one gardener (skilled Mali). The work of these gardeners will be supervised by one Supervisor in each district. The entire staff of the scheme will be placed under the Senior Horticulture Inspector of the district. The demonstration plots will serve as models for the cultivators for inducing them to take up vegetable growing.
- 115. In order to make the private cultivators agreeable to locate the demonstration plots in his fields, some incentives will have to be provided. These will include free supply of vegetable seed and fertilisers for the demonstration plots. In addition to this, he will be provided with labour for getting all operations carried out in the plots at the appropriate time. The cost of the fertilisers and labour for each demonstration plot will not exceed Rs. 25. There will be two such demonstration plots under each centre making a total of 48 plots. The total cost of the scheme for 1960-61 comes to Rs. 0.31 lakhs shown in the attached statement. The budget requirements for the Third Five Year Plan period are also enclosed. The total cost in the Third Five Year Plan comes to Rs. 1.57 lakhs. (Total Rs. 1.88 lakhs—Appendix—U.P./'T').

Scheme for Marketing of Fruits and Vegetables in the Hills of U.P.

116. It is well known that a grower of fruits and vegetables receives a small share of the price obtained by these commodities in the consuming markets. A large profit is earned by the contractors and middle men who collect the produce and market it. In order to bring to the grower more profitable return, it is recommended to organise the growers into Cooperative Societies and also set up cooperative marketing organisations. The scheme presented herewith consists essentially of two parts:—

- Organisation of growers into primary Cooperative Societies.
- (2) Organisation of Marketing Cooperatives to be associated with the Growers' Cooperatives.

Organisation of Growers' Cooperatives.—In order to encourage formation of Growers' Cooperatives, it is recommended that the loans which are distributed annually should be advanced only to members of Growers' Cooperatives. In the first instance, primary growers cooperative societies will be formed, which will be affiliated to the Apex Marketing Societies in each district.

- 117. The Apex Marketing Societies will arrange to (a) grade the fruits, (b) transport to convenient rail-heads and/or markets and (c) market the produce at suitable centres.
 - (a) Grading: The Apex Cooperative Societies will be given assistance to collect the fruit from individual members of the Primary Societies; the fruit so collected would be as per 'Agmark' grading scheme of the Agricultural Marketing Adviser to the Government of India. The cost of grading scheme (Rs. 8,000) and contingencies (Rs. 3,000) would be provided to be met by the State Government.
 - (b) The transport charges on road especially in the Hill Districts are very high. This is largely responsible for increasing the price of fruit in consumers' market. In order to reduce the price of transportation on roads from growing centres to the rail-heads, it is intended to subsidise the cost on transportation by providing each Apex Society with a truck at 50% cost which would be subsidised by the Government.
 - (c) It is necessary to bring to the notice of the public the benefits of graded fruits and also to bring larger benefits to the growers of quality produce. Such graded produce could be sold in the consuming markets like Bombay, Calcutta, Delhi, Lucknow and Kanpur by opening Sale Depots. It is recommended to advance a 50% subsidy to the Apex Co-operative Societies towards the salary of the staff and rent of the shops. It is also necessary to grant Rs. 3,000 per shop to enable the Societies to popularise sales through advertisement and publicity. The total estimated expenditure will be Rs. 6.27 lakhs as per statements enclosed. (Appendix—U.P./'U').

118. The total expenditure on the various schemes recommended by the Committee comes to Rs. 51.70 lakhs. The expenditure classified under different heads is as under:—

Name of the Scheme	District to which it concerns	Outlay in lakhs	Details in appendix No. U.P.	Remarks
Expansion of existing nurseries and establishment of new nurseries.	1. Almora 2. Nainital 3. Garhwal 4. Tehri-Garhwal.	8 · 54	,Ö,	
2. Development of Bharsar Orchard.	1. Garhwal	5.01	'R'	
3. Distribution of loans.	 Dehradun Almora Nainital Garhwal Tehri-Garhwal 	30-00	' S'	
4. Vegetable production on the Yatra Lines'.	 Almora Garhwal Tehri-Garhwal 	1.88	'T'	Includes subsidy Rs. 0.18 lakhs.
5. Marketing of fruits and vegetables.	 Dehradun Almora Nainital Garhwal Tehri-Garhwal 	6.27	'U'	Includes subsidy Rs. 1·40 lakhs.
	TOTAL	51.70		

Sericulture and Mulberry Cultivation

119. A Pilot Project in this connection has been undertaken by the Planning Research and Action Institute. It is felt that local prospects in sericulture and mulberry cultivation on a cottage scale are quite promising.

Mineral and Herbal Resources

120. Kumaon hills are very rich in herbs. About 600 drugs used in the Ayurvedic system are to be found in these hills. It is recommended that a Research Station in Kumaon may be established with a Sub-Station in Dehra Dun or Tehri Garhwal to carry out further researches in the matter. If necessary, these Research Stations may be placed under the Central Drug Research Institute, Lucknow.

121. It would be necessary to increase the cultivation of herbs and medicinal plants and to encourage commercial manufacture of medicines and drugs preferably through Co-operatives.

Scheme for Utilisation of Pine needles and Other Vegetable Fibres in Hill Districts of Uttar Pradesh.

These hill districts abound in many natural resources that can be utilised as raw-material for many industries. Most of these like pine needles, Al, Bhang, Malu, Rambans etc. are lying totally neglected. Fibres rotted out from these raw materials can be brought to various industrial uses. The only cost involved in the procurement of these raw materials is transport charges which is not too

much. The process of manufacture of fibre is rather simple. Fuel for boiling the material is available at almost all the places in the hills.

- 123. The starting and promotion of this industry would not only mean utilisation of the existing resources but the fibre when utilised properly, would eventually form the basis of a major industry in the hills and would play an important role in the economic uplift of the region. Though unlimited potentialities seem to exist for the development of these fibres, but modest beginning is recommended, the experience of which may serve as a basis for further expansion.
- 124. In the following plan, therefore, it is intended to start a Small Pilot unit of production with its Centre as Bhowali in Nainital district. Expansion or opening of new centres will depend on the success achieved in this Pilot Unit.

THE PLAN

- 125. The programme of utilisation of these raw materials can be drawn up in two different stages, viz., (i) Process of converting the raw material into fibre and (ii) Process of spinning the fibre into yarn and weaving fabric thereof. Spinning and weaving would be taken up by the Hills Wool Scheme while the conversion of Raw material into fibre will be done in this Pilot Project. The Project will comprise of a Central Workshop where machines, needed for processes to be performed mechanically, will be installed. The centre will serve as a nucleus of all activities of the project.
- 126. The centre will function under a Development Officer (Fibre) who, besides supervising the technical activities of the workshop, will also arrange for the disposal of finished material. The incumbent for this post should be a man of high technical knowledge and fully conversant with the up-to-date methods of production of goods of this nature. Taking into consideration the onerous duties attached to this post, a higher starting pay has been recommended.
- 127. The total expenditure involved in running the Pilot Centre will come to Rs. 2.16 lakhs in the year 1960-61. (Appendix—U.P./'V').
- Scheme for the Development of Pottery Industry in the Hill Districts of Uttar Pradesh.
- 128. Manufacture of Red-Clay-ware like Kullahar, Surahis etc. by village potters is a very old industry of Uttar Pradesh. These articles are of great antiquity and have now become popular in modern homes and there is a growing demand of white-ware goods which are more strong and durable than Red-Clay goods. The establishment of Pottery Development Centres at Khurja and Chunar and success achieved therein has brightened the prospects of this industry and it is hoped that more centres would soon come up in the State for producing a greater variety of articles that are both useful and decorative.
- 129. Raw materials which are required in the manufacture of superior type of pottery are found abundantly almost everywhere in the hill district. White clay known as Kameth of which huge deposits are found near Srinagar in district Garhwal have been tried

successfully in the manufacture of pottery goods at Planning Research and Action Institute, Lucknow. Encouraged by the success achieved at the Institute, the Committee recommend that Pottery Centre at Srinagar in District Garhwal and another centre at Bhimtal in district Nainital may be started where necessary equipment for pulverising the raw material will be installed and kiln for firing the fabricated goods will be erected. The centres besides taking up production of goods will also arrange to impart training to the local people in the manufacture of superior type of pottery. It will also provide direct and indirect employment to about 50 persons.

130. This involves an expenditure of Rs. 1.39 lakhs. The details of such expenditure are shown in Appendix U.P./'W'.

Scheme for the Setting up of Common Facilities Service Centres for the Copper Wares Industry at Kharahi (Almora) and Pithoragarh (Almora).

- 131. Almora is known for a long time for her copper industry. There are about 200 families engaged in Almora proper and another 50 families in Kharai near Bageswar. On account of old methods being pursued by the workers, the industry has not been able to make such headway and the modern technology which is being widely practised at other places has not been introduced in the industry. The result is that the industry has no tendency of further expansion. The workers are illiterate and have no means to purchase modern equipment which, if introduced, can materially improve the prospects of the industry. It is, therefore, recommended that two service Centres may be set up in Almora district. The workers would bring their raw materials as well as semi-finished goods in the Centre and utilise further service at the centre at nominal rates. The Centre would also undertake practical demonstration on modern methods of production so that the workers may be fully convinced of the utility of using better methods and improved equipments.
- 132. It will not be out of place to mention that copper wares from Almora district find a ready market in Nepal via Jauljibi, Jhullaghat and Tanakpur. The adoption of modern technology will enable the industry to reduce the cost of production and also produce goods to the liking of the consumers. It will also increase the earnings of the workers by 50%.
- 133. The scheme will involve an expenditure of Rs. 1.21 lakh as per statement attached. (Appendix—U.P./'X').
- Scheme for Development of Wood Work Industry in District Garhwal.
- 134. The manufacture of sports goods was a monopoly of West Punjab. Since partition the industry has developed in Meerut also. Manufacturers at Meerut receive raw materials from Kumaon Hills and Kashmir. Ash, Mulberry, Willow and Kukat trees like Uttis, Khagis and Putli etc. which are used in the manufacture of sports goods, are grown all over district Garhwal.

135. The interior of the district also abounds in walnut and maple which can be utilised in the manufacture of gun butts. Walnut butts which at the moment are lying totally neglected can be profitably utilised in sawn or peeled table top veneering.

136. A special type of wood known as Papri is found abundantly on the higher altitude of 7,000 ft. to 9,000 ft. in the district. The wood is yellowish white, hard, very close and even grained and is used for engraving, turning and carving and also in the manufacture of Survey Instruments. It compares favourably with the Box wood of Europe. The wood in small quantities is exported to plains where it is used in the manufacture of combs. Articles made of this wood would take good lacquer and polish and the wood can well be utilised in the manufacture of Electric Table Lamps, Drawing and Survey Instruments and beautiful carved wooden articles.

137. The exploitation of these resources particularly the varieties that are in the interior of the district had been difficult owing to lack of transport facilities. These difficulties will be reduced when the road construction programme of the Government in this district is complete. Labour in the hills is available at cheap rates. Due to the large number of perennial rivulets, cheap water power is available almost at all the places in the district. Technical hands will also be available from Sports Goods Centre, Nainital. All these factors have brightened the prospects of wood work industry in the district and small Saw Mills to be run with the help of water turbines can be profitably installed at Karna-Prayag. The following works can be taken up in the Centre:—

- (i) Manufacture of Sports goods which can be exported to plains in either finished or semi-finished condition.
- (ii) Cutting of billets of Walnut and Maple into sound hard-wood pieces suitable for manufacture of Gun Butts and household furniture. About half of the weight of timber will be left which would eventually reduce the cost of transport.
- (iii) Sawing small pieces of wood of various sizes from the billets of Papri wood for export to plains in finished or unfinished condition.

138. It is expected that since the industry is established in this area, it will prosper to a great extent and will be able to compete with similar Industry at any place in the country. This scheme will provide direct and indirect employment to about 200 persons.

139. Budget estimates amounting to Rs. 1.02 lakhs are appended. (Appendix—U.P./'Y').

Scheme for Manufacture of Fancy Baskets from Ringal.

140. Ringal is a type of cane similar in appearance to the Bamboo. It grows above 6,000 feet above sea level. There are rich forests in the area round about Pipalkoti. In spite of the fact that this raw material grows so abundantly, there has not been any large-scale exploitation of it so far. Baskets are produced out of Ringal but they need considerable improvement both in design and workmanship. Since the same types of baskets are being manufactured since

- a long time it has not been possible to expand the market. On account of the pilgrim route to Kedarnath and Badrinath, thousands of pilgrims visit the district yearly. There is, therefore, considerable scope of expanding this industry by manufacturing fancy articles which can be easily marketed to the pilgrims coming from all over India.
- 141. It is, therefore, necessary that a Training-cum-Production Centre may be set up at Pipalkoti which is an important centre on the pilgrim route. Other such centres at a later stage can be organised on some such lines at other suitable places in hills.
- 142. The expenditure of Rs. 0.13 lakhs for the implementation of this scheme is estimated. Details of such expenditure are included in the enclosed statement. (Appendix—U.P./'Z').

Scheme for the Development of the Chelu Oil Industry

- 143. Chelu is the seed of a fruit similar to apricot. Oil can conveniently be extracted from this seed. The trees bearing this fruit are in abundance in the areas of Rawain Naugaun (Tehri Garhwal) and Jaunsar Bawar (Dehradun). The seed can be collected in the months of May and June. It is estimated that about 3,000 maunds of seed can be collected in a year.
- 144. The yield of oil that is extracted from the seed by old methods is about 30% of the total content therein and if and when better and modern methods of oil extracting are used better yield will result.
- 145. The oil at present is used as a substitute of mustard oil for cooking as well as for massage. There is a great possibility of utilising the oil for medicine and manufacture of essential oils after a thorough testing of the same.
- 146. Following provision has, therefore, been made for payment of loan and grant to the extent of Rs. 14,300 to each of the Cooperative Societies to be formed at Rawain (Tehri Garhwal) and Chakrata in Jaunsar Bawar area of Dehra Dun. (Total Rs. 28,600). This will increase the earnings of the workers by 60%. Details of expenditure are appended. (Appendix—U.P./'ZA').

Scheme for the Development of Chir Tar Industry.

- 147. Chir Tar is obtained from the highly resinous stum wood (commonly known as 'Chhilka' or Torchwood) of either rejected or fallen trees of Pinus and allied species that are found in large quantities in all the hill districts of Kumaon Division.
- 148. The Tar finds use in belt manufacture, rope manufacture, manufacture of special coatings for marine purposes, impervious and water proofing compounds and rubber industries. It is also a source of medicinal and antiseptic products like creosote, spirit of tar, rectified oil, etc. Almost all the present requirement of the Pine tar is imported. Its full requirement, a few years ago, was estimated at about 600 tons. With the development of various industries the demand has considerably increased in recent years and the imposition of the restrictions on imports has considerably increased the scope of the industry. The industry will provide employment both

in the collection of stumps as well as the manufacture of Tar and allied products.

- 149. The industry can be best run through cooperative societies as it would be the best means for the collection of raw material which is available in the forests. Provision has, therefore, been made for the payment of loans and grants to the extent of Rs. 80,000 for four cooperative societies in each of the four districts during the year 1959-60.
- 150. The establishment of this industry would provide direct and indirect employment to about 1,000 people and will also help in the saving of foreign exchange. It will increase the present earnings of workers by 100%.

Scheme for Date Palm Product' Centre in Kumaon Hills

- 151. As a result of a survey conducted by the Palm Gur Development Officer of Date Palm Population in Almora district, it was estimated that there are 6,000 date palm trees at Bamsao and 4,000 trees at Kosi (Kathyari) in Almora district. At present, this palm population is not being utilised.
- 152. With a view to utilising these palm trees and convert the juice of date palms i.e. Neera into Jaggery, Sugar, Syrup and other products and to make use of date palm leaves and fibres for manufacture of ropes, mats, matting baskets etc., it is recommended that two date palm products centres may be started at the following two places during the next financial year, i.e., 1960-61.
 - (1) Bamsao
 - (2) Kosi (Kathyari).
- 153. There is practically no sugarcane growth in the hills and hence all the sugar supply to the Kumaon division is from the sugar factories of the plains. Date palm sugar industry is expected to meet part of the requirement of the hill area in the matter of sugar supply in the course of a few years.
- 154. This scheme will involve an expenditure of Rs. 0.07 lakh, the details of which are appended (Appendix—U.P./'ZB').

Scheme for the Manufacture of Plaster of Paris from Gypsum

155. There are well known deposits of Gypsum in Dhapila between Kaladhungi and Nainital. About 37,000 tons of Gypsum is reported to be available at this place. One unit at Rishikesh is already engaged in the manufacture of Plaster of Paris out of Gypsum. The metalled road from Nainital to Kaladhungi is already under construction. There is, therefore, no transport problem for the movement of finished products. Plaster of Paris is used for plastering purposes in Hospitals, making of Toys and Statues, and moulds for pottery. There is, therefore, sufficient scope for manufacture of Plaster of Paris out of Gypsum. A recommendation is being made for the establishment of one plant with a capacity to process 5 tons of Gypsum daily. The unit may be run on cooperative lines.

Scheme for Development of Sericulture Industry in hill districts of Uttar Pradesh

156. There is ample scope for introduction of Sericulture in the Hill Districts of Uttar Pradesh. The climatic and soil conditions are such that the silk products of this area would definitely be of superior quality. The river valleys of these districts resemble Kashmir Valley and the local peasants can pay attention on silk worm rearing during the period they are free from agricultural operations.

157. The basic and fundamental requirement of proper development of Sericulture is the timely and adequate supply of Mulberry leaves as food for silk worms. There is no regular cultivation of Mulberry in these Hills but scattered growth of Mulberry trees known as 'Kemu' is found almost every where. As such, there is a pressing need of good quality of Mulberry plantation on a large scale to cope with the requirement of rearers. The transhipment of improved grafts, seedlings or sapplings from Dehradun Nurseries would neither be an economical nor convenient proposition. It is, therefore, recommended that Mulberry plantation through the Forest Department may be raised along the river banks and flat areas around the large Alakhnanda and Ganga Valleys in Pauri and Tehri Garhwals and Garur Valleys in Almora district. These valleys are fertile and are well sheltered by mountains all around from the rigours of cold mountain breeze. In district Nainital, advantage can be taken of the plantation done by the forest department in 4,000 acres of land in Tanakpur area.

158. To begin with, Demonstration Centres will be established at Tehri-Garhwal, Srinagar in Pauri-Garhwal, Garur in Almora and Tanakpur in Nainital district. These centres will train people in the technique of silk worm rearing during the years 1960-61 and 1961-62. Simultaneously, cooperative societies of rearers will be formed with a membership of 100 rearers at each place and at the end of 1961-62 the entire organisation will be transferred to these cooperative societies. The members of these cooperatives will be advanced short term loans against share capital and also working capital. These societies will conduct chauki rearing, supply silk worms to its members, purchase the cocoons and arrange for their marketing. The Government will however, assist these cooperatives by giving them proper technical guidance, providing financial assistance as short term loans and offering subsidies in the form of rearing appliances, chauki rearing huts, irrigation facilities, farm equipment and grafts etc.

159. This will increase the earnings of the workers by 60%. The estimated expenditure in this connection would be Rs. 2.75 lakhs for two years (1960-61 and 1961-62), besides Rs. 0.63 lakh (Rs. 0.33 lakh on loan and Rs. 0.30 lakh on subsidy). Details of such expenditure are appended (Appendix-U.P./ZC).

Scheme for Development of Carpet Industry in district Almora

160. The carpet industry is carried on a small scale also in the hill districts of Uttar Pradesh where this trade is functioning in independent and isolated units without any technical guidance. Tibetan multicoloured pilo carpets of handspun yarn are woven in most exquisite designs. The industry if organised properly has good potentialities.

161. It is intended to organise the weavers into cooperatives who will be provided financial assistance for setting up a dye house and purchase of wool etc. The Design Section of the Hill Wool Scheme will evolve suitable designs with traditional Indian and modern motif to suit foreign markets. This will increase the earnings of the workers by 30%.

Estimates of Financial Assistance recommended for Cooperative Societies

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0,000
5,000
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Expansion of hill wool industry in Jaunsar Bawar area of Dehradun district.

- 162. Jaunsar Bawar Area of Dehradun District is a very backward area and quite a large number of persons in this area have no other alternative source of occupation except agriculture, which does not yield adequate returns.
- 163. With a view to provide employment, part-time and whole-time the scheme of wool spinning and weaving was launched in the year 1948 providing for one Weaving Centre and three Spinning Centres. The scheme aimed at:—
 - (a) Training people in improved methods of spinning and weaving and dyeing.
 - (b) Introduction of improved appliances, for better production.
 - (c) Supply of wool at reasonable prices.
 - (d) Provision of marketing facilities etc.
- 164. During the Second Five Year Plan, the scheme was further expanded and 5 more spinning centres were provided. Thus in all one Weaving and 8 Spinning Centres are functioning at present. It is, however, felt that adequate field has not yet been covered and there is still scope for further expansion. There is also a constant demand for more centres in this area.
- 165. In view of the possibilities, it is recommended that one Training-cum-Production Centre on the lines of other hill districts with 10 spinning centres attached to it may be started. This will help in imparting training to more persons engaged in the trade in this area. It will also provide part-time and whole-time occupation to those who at present eke out a bare existence.
- 166. It is also felt that proper marketing arrangement should be made for the disposal of finished products at reasonable prices. It is, therefore, desired to start a Sales Depot or a show-room at Dehra Dun, which is the most suitable place for the purpose. This depot is likely to be of great help in popularising and finding out-let for the finished products.

- 167. It is expected that the scheme when implemented shall provide direct and indirect employment to about 200 persons and an increase in the earnings of about 1,500 spinners by 50% through the use of improved technique of production and improved appliances.
- 168. This will involve an expenditure of Rs. 3.23 lakhs as per details enclosed (Appendix-UP/'ZD').

Scheme for opening a Cane and Bamboo centre at Kotdwara district Pauri Garhwal

169. Ringal and bamboo is grown in abundance in district Garhwal. It is exported outside the district. The local artisans called "Rurias" are mostly scheduled castes and are ignorant of the latest development in the technique designs and craftsmanship. At present, they prepare their age-old antiquated articles with primitive methods. In order to improve the lots of these cottage workers and also to utilise these forest products to the best advantage of this backward area, the Committee recommend that a Training-cum-Production Centre for preparing Cane and Bamboo furniture, Chicks etc. may be opened. In order to produce artistic goods, it will be necessary to keep the duration of training for one year. After the completion of the training, Cooperative Society of the ex-trainees may be formed. It is understood that the scheme has been forwarded to the All India Handicrafts Board for financial assistance. The detailed budget estimates amounting to Rs. 0.17 lakhs for 1960-61 are enclosed. (Appendix UP/ZE). The earning of the workers will be increased by 50% after getting training in the art in improved methods.

Scheme for the Development of Shawls, Galichas, Asnis and Druggets at Pauri, district Garhwal

170. Wool spinning and weaving is the main cottage industry in the hills. However, at present people cater for their local needs only. In order to enlarge the scope of the woollen industry and improve the condition of cottage workers, it is necessary to divert their attention to the production of goods of artistic designs which may find ready market and thus supplement their income. There is great demand for such articles as Shawls, Galichas, Asnis Druggets etc. Since the raw material is locally available, it is necessary to train the cottage workers in the production of more profitable goods. It is therefore, recommended that a training-cum-production centre for the manufacture of such woollen articles as (i) Shawls, (ii) Galichas, (iii) Asnis, and (iv) Druggets may be opened. Those who are already acquainted with the weaving technique will be given short training for 6 months. During the next six months the trainees will be asked to produce saleable articles under commercial conditions and will be given wages according to their outturn. After one year a Cooperative Society of the ex-trainees will be formed and they will be expected to undertake commercial operations on their orders. Orders will be procured by the Commercial Traveller who will take with him a sample book together with the prices of each article. Once such a centre is set up, it will be possible to organise a chain of such centres in different places in the District.

- 171. It is expected that when the scheme is implemented, it will provide direct and indirect employment to about 100 persons and will also increase the earnings of the ex-trainees by 50%.
- 172. The Scheme has been forwarded to the All India Handicrafts Board for financial assistance. An expenditure of Rs. 0.48 lakh will incurred for the Implementation of this scheme. Details of such expenditure are given in Appendix—UP/ZF.

Provision of Industrial Pilot project at Uttar Kashi (Tehri Garhwal)

- 173. Industrial Pilot Projects are field laboratories where industrial extension may be seen at work from close quarters. New techniques of production, sales and marketing find their application in these projects and experiences gained are projected to other similar areas of the State. Decband is the only such Pilot Project in the S te. The resources and problems of inaccessible areas are quite different from West U.P. and as such the experiences gained in Decband, do not find any appreciable application in the aforesaid regions.
- 174. In the light of these considerations the State Coordination Committee under the Chairman-ship of the Chief Minister has also recommended that more Industrial Pilot Projects should be established to cater to the peculiar and local regional requirements. Considering the available resources, aptitudes and talents, it has been tentatively decided by the State Government that a Pilot Project may be located in Uttar Kashi (Tehri Garhwal). The Committee support the decision taken in the matter.
- 175. The budget estimates for the aforesaid Pilot Project has been accordingly formulated for the year 1960-61. These estimates follow a pattern identical to the existing Pilot Project, Deoband.
- 176. So far as control staff is concerned, this staff besides looking after the schemes of the State Government shall also process the activities of various Boards and Commissions like the Handloom, the Khadi and Village Industries, the Handicrafts, the Small Scale and Silk Fibre Boards, intensively as well as extensively.
- 177. In this Pilot Project a provision for running of 7 Training-cum-Extension Centres in local specific crafts has been made so as to train the rural artisans in up-to-date techniques of production and marketing. The estimates incorporate the usual feature of the Training-cum-Extension Centres. The establishment of a Multi-purpose Unit is also envisaged. This unit will aim at popularising and demonstrating the use of improved tools and implements for Black Smithy and Carpentry and would be equipped with up-to-date modern and improved markines in order to make up-to-date tools and implements readily available to the small entrepreneurs. Adequate stocks of such tools would be kept at the unit for being sold to bonafide artisans of the locality. In view of the under-developed economic conditions of the artisans, it is recommended that the sales of tools would be effected on 50:50 basis.
- 178. It is expected that the scheme, when implemented, shall provide direct and indirect employment to about 300 persons.

179. The full details of the budget estimates amounting to Rs. 3.11 lakhs are appended (Appendix—UP/ZG).

Scheme for the establishment of Ericulture centres in the hill districts

180. Ericulture Industry is a new industry to the State. Unlike silk worm, eri-worm is hardy and can survive even warmer climates. Its food, caster leaves, can be grown almost any where. This industry has great possibilities of giving subsidiary employment to cultivators without any elaborate training or investment.

181. Castor plantation are found in abundance in the hill districts of this State. The prospects of this scheme are accordingly quite bright. It is, therefore, recommended that four centres, one each at Hawalbagh (Almora), Amotha (Garhwal), Deoprayag (Tehri), Garam Pani (Nainital) during 1960-61 may be started. The cost of one Centre will involve Rs. 11,300 and the total cost for four Centres comes to Rs. 45,200 (Appendix—UP/ZH).

182. To sum up, the Committee's recommendations in respect of Industries, if implemented, will involve an expenditure of Rs. 18.39 lakhs as detailed below:—

	E-PHODONI	Marie III		
INDUSTRIES Name of Scheme	District to which it concerns.	Outlay Rs.in lakhs.	Details in Appendix U.P.	Remarks
(1)	(2)	(3)	(4)	(5)
Utilisation of Pine needle and other vegetable fibre	Nainital	2·16	'V'	
2. Development of pottery.	Garhwal Nainital	1 · 39	'W'	
3. Common Facilities Service Centres for Copper Ware Industry.	1. Almora	1.21	ʻX'	
4. Wood work industry	1. Garhwal	1 · 02	'Y'	
5. Manufacture of Fancy Baskets (Ringal in- dustry)	1. Garhwal	0.13	'Z'	
6. Development of Chelu Oil Industry.	 Tehri-Garhwal Dehradun 	0.29	'ZA'	Loan=Rs. 0.20 Grant= 0.09
				Total Rs. 0.29
7. Development of Chir Tar Industry.	1. Nainital 2. Almora 3. Garhwal 4. Tehri-Garhwal	0.80		For loans and grants.
8. Date Palm Products Centre.	1. Almora	0.07	ʻZBʻ	
9. Manufacture of Plaster of Paris.	1. Nainital	0.25		For grants and loans (Rs. 15,000 and Rs. 10,000), respectively.

(1)	(2)	(3)	(4)	(5)	
10. Development of Seri- culture Industry	Almora Nainital Garhwal Tehri Garhwal	3.38	'ZC'	Includes: Loan Rs. Subsidy Rs.	0.33 0.30
	101111 011111			Rs.	0.63
11. Development of Carpet Industry	1. Almora	0.25	_	Assistance=Rs Loan =Rs.	15,000 10,000
12. Expansion of Hill Wool Industry.	1. Dehradun	3-23	'ZD'		
13. Opening of Cane and Bamboo Centre.	1. Garhwal	0·17	'ZE'		
14. Development of Shawls, Galichas etc.	1. Garhwal	0.48	'ZF'		
15. Industrial Pilot Project.	1. Tehri-Garhwal	3.11	ʻZG'		ant in 86
16. Establishment of Ericulture Centres.	 Almora Nainital Garhwal Tehri-Garhwal 	0.45	'ZH'		
	Total	18-39	-		

Soil Conservation and Afforestation

183. Schemes of soil conservation are being co-related with the activities of the Forest Department. Demonstrations with regard to soil conservation which have recently been taken up in Naugaon and Jakhoti blocks of District Tehri-Garhwal should be further extended to other areas on the availability of trained personnel. Planning Research and Action Institute has also started a demonstration project for Erosion Control at Bhimtal in Nainital District. The Government of India Regional, Training Centre, Dehradun, can also be requested to take up projects in Dehradun for demonstration purposes. One Centre for the Training of workers of the hills districts in soil conservation should be established. The cheaper methods of fencing like the growing of cactus and Rambans should be popularised. The construction of spurs to avoid sharp curves of the hill streams should also be undertaken.

184. Large areas in Kumaon Division suffer from serious soil erosion. The stability of agriculture itself in such areas is threatened. The value of afforestation combined with closures to grazing in the prevention of soil erosion has been fully accepted. The Committee recommend that soil conservation works in 3,000 acres per annum in such areas at an estimated cost of Rs. 6 lakhs per annum may be taken up. These works can be started from 1960-61, as enough time is not left now to take up the works during 1959-60. A sum of Rs. 6 lakhs per annum is thus required for 6 years from 1960-61 upto the end of the III Five Year Plan period, i.e., a total amount of Rs. 36 lakhs is required for this scheme. The policy to be adopted will be that such soil conservation-cum-afforestation works will be carried

out on the lands of the beneficiaries, and they will be asked to make a contribution for this purpose in the form of 'Shramdan'.

185. The soil conservation works should be taken up by subcatchment or catchment and not in a scattered way. In areas with slopes above 20° cultivation should be discouraged. Soil Conservation measures to be adopted for various grades are given below:—

- (a) In areas with slopes from 2 to 10% graded type contour bunding or American channel terracing leading to vegetative waterway, contour farming, rotational cultivation or strip cropping etc.
- (b) In areas with slope from 10 to 16% bench terracing graded of Ooty type of trenching depending upon the soil depth.
- (c) In areas with slopes from 16 to 20% bench terracing of Ooty type or trenching or felling contour depending upon the soil depth.
- (d) Areas above 20% should be reserved for afforestation or pasture development and cultivation should be discouraged.

Under items a, b, & c, contour cultivation combined with other improved agricultural practices recommended for the region should be followed to obtain full return for the money spent. Regarding Item (d), improved foresty and grass land management practices should be followed.

राधानव भवन

APPENDIX-U.P./'A'

Development of Communications in Inaccessible Areas in Kumaun Bundelkhand Division, Uttor Pradesh

Abstract of List for Roads and Bridges Scheme in Inaccessible Areas for III Five Year Plan

	C		T IN L	AKHS	Break	up of ex	penditure
District	Length- of road (in miles)	Roads	Bridges	Total	1st year		3rd, 4th & 5th year.
Almora	198	101.50	19.50	121.00	12.50	31.50	77.00
Nainital	183	93.50	14.50	108,00	11,00	23.50	73.50
Tehri Garhwal	296	178.00	15.00	193.00	20.00	44.50	128.50
Garhwal	209	132.00	29.50	161.50	14.00	35.50	112.00
Dehradun	54	46.00	—	46.00	7.00	14.00	25.00
TOTAL	940	551.00	78.50	6 29.50	64.50	149.00	416,00
Miscellaneous Items in Hill Districts.	E	75.00		75.00	21.00	29.00	25,00
TOTAL	Y	626.00	78.50	704.50	85.50	178.00	441.00
Contingence & W/C 4 1/2%.				31.70	3.85	8.0	19.84
Establishment @71/2%		LEA.	1377	52.84	6.41	13.3	5 33.08
				789.04	95.76	199.3	6 493.92

Statement showing Roads and Bridges Recommended for the Inaccessible Areas of Kumaun Division and Dehra Dun Districts Tagether with an Estimated Expenditure

		Appro- Rough	Probabl	Probable expenditure		
PTIONTY	ximate Length	cost ex- cluding major bridges	1st year	2nd year	3rd to 5th year	
1	2	. 3	4	5	6	
Almore District 1. Berinag-Gangolihat Rame-shwar.	28	14.00	1.50	3.50	9,00	
2. Thal Tejam	15	10.00	1.00	3,00	6.00	
3. Dearahat Ganai	16	8.50	1.00	1.50	6.00	
4. Almora Podhar Lamparm Dhunaghat Lohaghat.	48	24.00	2.00	4.00	18.00	

1	2	3	4	5	6
5 I observe Dulhindele	12				
		6.00	1.00	3.00	2.00
6. Almora-Bhoolaghat	30	15.00	1.50	2,50	11.00
7. Gwaldam Karmi-Dhakuri	28	16.00	1.00	4.00	11.00
8. Pithoragarh Jhulaghat	16	8.00	1.00	1.00	6.00
Total	193	101.50	10.00	22.50	69.00
Nainital District 1. Kaladhungi Rampur	15	6.00	1.50	2.00	2.50
Mukteshwar Almora via Jhururi.	8	4.00	1.00	2.00	1.00
3. Talla Ramgarh Almora	22	12.00	1.50	2.50	8.00
 Chaufi Padampuri Khana- yun. 	28	14.00	1.50	2.50	10.00
5. Betalghat Garjia	17	8.50	1.50	2.00	5.00
6. Bijaipur Paharpeni	60	30.00	2.00	5.00	23.00
7. Haldwani Ramnagar	38	19.00	2.00	3.00	14.00
TOTAL	188	93.50	11.00	19.00	63.50
Tehri-Garhwal District 1. Tehri Deo Prayag	40	20.00	2.00	4.00	14.00
2. Chamba Mussoorie	37	10.00	2.00	4.50	3.50
3. Bhatwari Ghaneseali	50	40.00	4.00	10.00	26.00
4. Barkote Yannotri	40	30.00	3.00	6.00	21.00
Ghareali Chirbatiya Jhan- kni Bheri.	60	36.00	3.50	7.00	25.50
6. Jhanki Tilwara	14	10.00	1.00	2.00	7.00
7. Ghanesali Chutti	20	10.00	1.00	2.00	7.00
8. Nogaon Jarmola Sandharoa	35	22.00	2.50	5.00	14.50
TOTAL	296	178.00	19.00	40.50	118.50
Pauri Garhwal District 1. Pauri Deoprayag	24	15.00	1.50	3.00	10,50
2. Bajrao Thalisan Adhai	45	30.00	2.00	5,00	23.00
3. Gupta Kashi Gauri Kund	24	20.00	1.00	3.00	16.00
4. Satpuli Baijrao	38	19.00	1.50	3.50	14.00
5. Pauri Thalison	45	30.00	3.00	6.00	21.00
6. Gwaldam Karanprayag (Sindi Talwari Tharali).	. 26	15.00	1.50	4.50	9.00
7. Gumkhal Dwarimal	7	3.00	0.50	1.00	1.50
TOTAL	209	132.00	11.00	26.00	95.00

1		2	3	4	5	6
Dehra Dun Dist	rict		· · · · · · · · · · · · · · · · · · ·			
1. Bhandraul	li Tuini	20	16.00	2.00	4.00	10.00
2. Dakar Ch	akrata		30.00	5.00	10.00	15.00
	TOTAL	54	46.00	7.00	14.00	25.00
Miscellaneous Ite	ems					
	nds to forest Rest water posts and Inspection	L.S.	15.00	2.00	5.00	8.00
(ii) Survey Bridges.	of Roads and	L.S.	10.00	4.00	4.00	2.00
(iii) Equipme mentatio Special T	ent for imple- on of Scheme and C. &. P.	L.S.	25.00	5.00	10.00	10.00
and Lab	nodation for staff ourers (Hutment d Office and Store s Rest House,	L.S.	25.00	10.00	10.00	5.00
	TOTAL		75.00	21,00	29.00	25.00
Major `Brid enclosed.	lges as per list	10	78.50	6.50	27.00	45.00
	TOTAL		704.50	85.50	178.00	441.00
Add: Contin Estt. @	ngences and W.C. 41/2%.		31.70	3.85	8.01	19.84
Establishmen	£ @ 71/2%	सन्द्रभव व	52.84	6.41	13.35	33.08
T	OTAL COST		789.04	95.76	199.36	493.92
	M.	AJOR BR	IDGES			
D !!				Probal	ble expendi	ture
District	Name of bridge	;	Estimated cost	1st	2nd	3rd
415	A		(2)	year	year	year
(1)	(2)		(3)	(4)	(5)	(6)
Almora	. Bridge over Go on Askot Di Road.	origanga harchula	5.50	0.50	2.50	3.00
	Bridge over Ram Kapkote Sama Road.		4.50	1.50	2.50	0.50
	Bridge over Ga Bhikia-sen Road.	nges on Ganai	5.00	0.50	2.50	1.50
	Bridge over Ra Ganai Panwak	amganga :hal.	4.50	→	1,50	3.00
			19.50-	2.50	9,00	8.00

(1)	(2)	(3)	(4)	(5)	(6)
Nainital	Bridge on Bijaipur Rahar- pani Road.	6.00		1.50	4.50
	Bridge on Talla Ramgarh Almora Road.	3.50	-	1.50	2.00
	Garjia Betalghat	5.00	_	1.50	3.50
	-	14.50		4.50	10.00
Garhwal	Joshimath Hanuman	16.00	2.00	4.00	10.00
	Chatti Gwaldam Karan	6.00	0.50	2.50	3.00
	Prayag Road Baijrao Thalisan	7.50	0.50	3.00	4.00
	-	29.50	3.00	9.50	17.00
Tehri	Bridges on roads included in inaccessible area.	15.00	1.00	4.00	10.00
		78.50	·6.50	27,00	45.00

सन्द्रमिव जवने

APPENDIX-U.P./"B"

Importance of Roads Selected for the Third Five Year Plan in Inaccessible Areas of Almora District.

Berial No.	Name of Road	Importance of Road
1.	Almora-Paudhar, Lamgarh-Devidh- are-Dhunaghat Road.	This road will serve the eastern portion of Almora for the point of view of horticulture and is very good vegetable growing area. This will also connect Almora district Headquarters with Lohaghat Tehsil, 8 miles length from Almora to Pandhar and 13 miles length for Lohaghat to Dhunaghat has already been sanctioned in 2nd Five Year Plan. These length have therefore been excluded.
2.	Beninag Gangolihat	Gangolihat area is an important area of the district but is so far not connected by road. A road from Chow Kosi to Berinag another from Rameshwar to Gangolighat has been sanctioned in II Five Year Plan. The remaining portion from Gangolihat to Berinag has been provided in this plan.
3.	Gwaldam Karmi Dhakuri	It is necessary for the Development of the area with special advantage to sheep breeding industry. This road will be one of the most important one to develop tourist traffic to Gwaldam and Pindari.
4.	Lohaghat-Pul Hindola	It is an important road to connect Almora District with Nepal. The road will pass through rich orchards and will help in the development of horticulture.
5.	Almora-Jhulaghat and Pithoragarh Jhulaghat.	The road is necessary for the general improvement of the region and will also be important from horticulture point of view.
6.	Dwarahat Ganai Road	Dwarahat is a trade centre. This road will connect Ranikhet-Dwarahat Road with Ganai Panuwakhal Road (Inter District Road).
7.	Thal-Tejam	A very important route of Border area, will serve a very well populated area.

Importance of Roads Selected for the Third Five Year Plantn Inaccessible Areas of Nainital Division

Serial Name of Road No.	Importance of Road
Bijaipur-Paharpani Road Via Okaldu- nga.	Importance from horticulture point of view. This is very rich potato growing area.
2. Kaledhungi Banzpur Road	This will be a shortest route to Moradabad. Moreover Nainital Kaladhungi Road is being constructed and Bazpur Dovaha has also been completed. This portion is therefore necessary to be taken up.
3. Haldwani-Kaladhungi-Ramnagar Road	Connects the important mandis of Ram- nagar and Haldwani.
4. Talia-Ramgarh-Nathukhan-Ghureri- Almora Road.	Horticultural area, Feeds Agricultural farms.
5. Betalghat Garjia	Great demand for the road opens the best fertile area of Nainital district.
6. Muketeshwar-Almora Road via Ghureri.	Horticultural area.
7. Chaufi-Padampuri-Khansyun	Do.
Importance of Roads Selected for the Third Fi Garhwal Dist	rict
Serial Name of Road	Importance of the Road
1. Ghansali Chirbatiya Ghokhni Bheri	This is a pilgrim route and will open the interior. The road partly has been constructed by Sharamdan in a length of 4 miles and 3 bridges of 100 ft. span each will be needed in addition to this. This road will open interior orchard area.
2. Jhakhani Tilwara	The road has partly been constructed by Sharamdan and will open the Block area of Jakholi one as bridge of 200 ft. span over Mandakini river of Tilwara will be needed which will cost 4 lacs in addition to this.
3. Tehri Deo Priyag via Khas Patti	To open the interior and orchard areas. Shramdan in 8 miles.
 Dharasu Yamnotri Road (Dondi Yalgaon to Beef). 	Yamnotri is a pilgrim centre and will open interior and orchard and pasture areas.
Chamba Mussoorie (Kanutal Bur- anshkhanda portion).	To open interior and orchard area. This road will be shortest route between Tehri and Mussoorie. The area is beauty centre and touristwould like it.
6. Nangaon-Purola-Jarmola-Sandhara	One bridge of 140 feet span at Nangaon over Mamuna is needed which will cost 2.3 lacs in addition to this. This road will open and connect Yamuna and tone valleys and will open interior, orchard and pasture areas.
7. Ghansali Ghutta	To open interior and orchard area.

Importance of Roads Selected for the Third Five Year Plan in Inaccessible Areas of Garhwal Division

Serial Name of Motor Road Importance of the Road No. 1. Satpuli-Baijrao There is no motor road in this valley thickly populated. Some portion between Satpuli and Rithakhal a distance of 16 miles has been widened by Shramdan. This road will open a fertile valley and will connect Garhwal with Mohan Baijrao-Thalisan Motor Road. 2. Baijrao via Thalisan to Dewalkhal . . From Ramnagar to Tiskot a motor road has already been constructed and from Liskote to Baijrao the road is already sanctioned in the scheme of Roads in Backward area. From Baijrao to Thalisan and Dewali Khal a proper road is needed as this area is very much cut of and there is no easy access. Thalisan is block Headquarter and centre of that area. Dewalikhal is on Karanpriyag Dwarhat Motor road and so by constructing this road the whole remote area is served and connected and horticulture development areas of Bharsar etc., are made accessible. This road will need two major bridges. 3. - Pauri (Mandakhal) Musagali Bhatsar From Pauri to Mandakhal about 5 miles and Thalisain. motor road exists. Musgali is on western Nagar valley not connected with easy communication. Bharsar is a main and horticulture centre. very important Thalisain is the centre of the area and so this road is proposed to connect all these important places to the District Headquarter. This will need one major bridge. 4. Pauri to Deopriyag ... Some portion about 7 miles have been widened by Sharamdan. There is also thickly populated area. The public has been agitating for a long time. It will connect Deopriyag directly which is a pilgrim centre to pauri Headquarter. Guptakashi to Gauri Kund... Guptakashi the .. Upto motor road is already under construction. This road will serve the pilgrims going to Kedarnath and also the fruit growing area of Jurena and Phata. From Gaurikund only 7 miles of distance remains to Kedarhath. One major bridge will be needed. This is a very important route connecting Garhwal with Almora. From Garur to Gwaldon and Talwari Motor Road has 6. Simali Talwari & connecting Tharali (Karenpriyag Gwaldon Road). been constructed. This road will open Pinder valley and Development Centres at Tharali and Narain Basar. A great public demand prevails for it. Two major bridges will be needed.

Serial No.	Name of Motor Road	Importance of the Road
7.	Gumkhal Dwarikhal	Dwarikhal is the Block Headquarter and from Dwarikhal onwards to Silogi, Forest Department is constructing motor road. From Gumkhal to Dwarikhal some work has already been done by Shramdan or contribution basis.



APPENDIX U.P./"C"

List of Motor Roads recommended for construction during the 20 years Master Plan period in Almora District

Serial No.	Name of Road	Approxi- mate length in miles	Approximate cost excluding major bridges in	Priority for 3rd plan
(1)	(2)	(3)	lakhs (4)	(5)
	ROADS IN NON BORDER-AREAS			
1.	Almora Paudhar Lamgarh, Devidhura Dhunaghat Road.	50	25.0	
2.	Beninag Ganglihat	12	6.0	
3.	Paharpani Dol. Sahrphatak Ghharonj Road	10	5.0	
4.	Link Road to Jageshwar temples	3	1.0	
5.	Someshwar Gorachhina Dewaldhar Bageshwar Road.	30	15.0	
6.	Jhusiathora to Chowkoria Dharamgarh	25	12.5	
7.	Kaparkhan Binsar	6	3.0	
8.	Bin sat-Dhaulchhina-Ganai-Sargakhet Jhal tola-Berinag.	55	27.0	
9.	Chharonj Panwanaula	15	7.5	
10.	Someshwar Dwarahat with link road for Dunagiri	26	13.0	
11.	Bageshwar to Rameshwar	55	27.0	
12.	Kapkot Loharkhet	13	5.8	
13	Gwaldam Kaumi Dhakuri	28	14.0	
14.	Champawat-Tamli	25	12.50	
15.	Champawat Khetikhan via Mayawati	13	6.50	
16.	Lohaghat-Pul Hindola	18	9.00	
17.	Ghat Pancheshwar	15	7.50	
18.	Munakot Shulakat Jhulaghat	18	9.00	
19.	Almora-Panuwanaula-Gangolihat-Pithoragarh- Jhulaghat (Chandak to Manakote already exists).	70	35.00	
20.	Kanalichina-Dewalthal. Thal	26	13.00	
21.	Dwarahat Ganai Road	16	8.00	···

1		2				3	4	5
22.	Hairakhan-Joshura Ro	ad (Jo	oshura-	Debidl	nura)	25	12.50	
23.	Paharpani Mornela—i Shaurphata.	remain	ing si	milar	upto	5	2.00	
					•	559	276·8	
	ROADS IN BORDER	R ARE	AS					
1.	Thal-Tejam					15	10.5	
2.	Sama-Gogina-Namik	••				30	21 - 00	
3.	Dharchula Tawaghat					11	7-7	
4.	Didihat Munsiyari		••	••		45	31 · 5	
• • •								

Detailed list of bridle roads recommended on border areas

Seria No.			Length in miles	Cost in lakhs Rs
	HIGH ALTITUDE ROADS			
1.	Dung-Untadhura-Jayanti-Kingri Bingri (in connection with the Passes at Untadhura-Jayanti-Kungri Bingri)	n).	12	1 · 80
2.	Untadhura-Topldunga-Lapthal-Sangchamalla-Balchan hura.	nd-	27	4 · 105
3.	Khela-Bedang-Dava-Derma	•	45	5 · 40
4.	Gunji Kuti-Limpiya Pass	•	25	3 · 75
5.	Khela-Pangu-Sosa		12	1 · 80
	LOWER REGION ROADS			
6.	Nachani-Mavani-Dawani		20	2.00
7.	Quiti-Barapatta		9	0.90
8.	Bhadiyali-Talla Dummar		6	0.60
9.	Burfu-Mapa-Ghanghar-Panchu-Milam		10	1.00
10.	Namik-Thala-Jaitha-Mathote		30	3.00
11.	Balwakote-Baram		10	1.50
12.	Nyu-Sumdur-Dharati-Gulfeo-Mathokote		30	4.50
			236	30:355
			or say I	Rs. 30·00 lakhs.

List of Major Bridges on the Road Recommended for 20 years
Master Plan for Almora District

Serial No.		Approx. span ft.	Approx cost lakh	k. Remarks
1.	Over Ganga on Askote-Dharchula	225	5.50	The road is already under construction hence bridge is extremely necessary priority-1st
2.	Over Swal river on Almora-Paudhar Lohaghat Road.	130	2.60	Priority-1st.
3.	Over Kosi on Someshwar Bageshwar Rd.	130	3.00	
4.	Over Sarju on Binsar-Dhaukhina Bearinaga Road.	300	6.00	
5.	On Charaonj-Panauanaula Road.	150	3.00	
6.	Over Gagas river on Someshar Dwarahat Road.	150	3.00	
7.	Over Ramganga og Almora-Pithoragarh Jhulaghat Road	225	5.50	
8.	Over Ramganga on Kapkots Sama Tajam (Border).	200	4.50	This road is already under construction hence bridge is necessary (1st Priority).
9.	Over Ramganga on Rameshwar Gangolihat Road.	225	5.50	1st Priority.
10.	Over river bhujgarh on Tejam Thal Road (Border).	258	5.50	1st Priority.
11.	Over Jakula on Thal-Tejam Road (Border).	150	3 · 50	1st Priority.
12.	Over river Sarju on Bageshwar-Askote Road.	180	4.00	The road is already constructed and hance bridge is extremely necessary 1st priority.
13.		200	4.50	1st Priority.
	Jhulaghat Road. Total		56.10	

say Rs. 56.00 lakha

LIST OF MOTOR ROADS RECOMMENDED FOR CONSTRUCTION DURING 20 YEARS MASTER PLAN IN NAINITAL DIVISION

SI. No.	Name of Road	Le ngth	Approx. cost in lakhs excluding major Bridges	
1.	Bajaipur Pharapuri Road via Okal dunga	•••	Miles 50	30.00
2.	Khbadhungi Baspur Road		13	6·50·
3.	Haldwani Tankapur Road		46	23 · 00
4.	Baspur Lakhua via Cullarbhoj		20	10.00
5.	Haldwani Kaladhungi Ramnagar	••	23	11.5
6.	Ramnagar Laldhang		15	7.5
7.	Sitarganj Chorgalia		11	5 • 5
8.	Sitarganj Amaria		5	2.5
9.	Talla Ramgarh Nathukhan Ghurari Almora Road (22 min Nainital distt.)	iles 	28	14.0-
10.	Betalghat Garjia		17	8 · 5·
11.	Bhatranjthan Betalghat Road	٠	10	5.0
12.	Mukteshwar Almora Road via Ghurari		8	4.0
13.	Kakrighat Sitlakhet		17	8.5
14.	Chaufi Paharpri (Padampuri Managher)		12	5.0
15.	Chaufi Padampuri Khansyum		28	14.0
16.	Okhaldhungi Halyari Tal Binolia		20	10.0
17	Hirakhan Jyoshura Road		26	12.5
		-	349	178.0
	LIST OF MAJOR BRIDGES OF THE ROADS RECO 20, YEARS MASTER PLAN FOR NAINITA			OR
SI. No.	Name of Bridge of Location		Span	Approx. cost in lakhs
(1)	(2)		(3)	(4)
1.	Naintal District Over Gaula river near Haldwani on Bijaipur Paharpa Road	ni 	800′	10.00

Over Kosi River on Kaladhungi Ramnagar Road

3.

4.

300'

150'

400'

4.00

2.00

6.00

*		2		
5.	Over Ramgarh River in Tall	a Ramgarh Ramgarh	100′	1.5
6.	Over Kosi River near Ghu Road	orari on Talla Ramgarh Ghurari	150	2.00
7.	Over Kosi at Gurjia on Beta	lghat Gurjia Road	200′	3.00
-8.	At Betalghat on Betalghat P	arjia Road	150′	2.00
9.	Over Kosi River in Sitliakhet Kakri-Ghat Road near Kakrighat		200′	3.00
10.	Construction of a bridge over	er Kosi near Kumaria	2001	1.5
11.	Suspension bridge between C	Chaur-lakh and Nai	100′	0.60
12.	Pedestrian bridge over rive	r Mandhaur on patlot Medon		0.80
				36-40
1.	Almora District 2 Major Bridges in Dwaraha	t Ganai Road	_	- 3.00
		Total for 4 Division		39.40
		KHWENMI		
SI, No.		e of Road	Length	Cost in lakhs
(1)		(2)	(3)	(4)
1.	Const. of Motor Road from	Bhatwari to Gangatri	Miles 44	62.00
2.	Do.	Bhatwari to Budhkedar	42	25 · 20 `
3.	Do.	Budhkedar to Gansali	18	26.00
4.	Do.	Ghansali Chirbatiya Jhakhani Sheri	60	36.00
5.	Do.	Jhakhani Tilwara	14	7.00
6.	Do.	Lambgaon Mukham	10	6.00
7.	Do.	Lambgaon Pratap Nagar, Tehri	28	16.80
8.	Do.	Lambgaon Block Pass	28	16.80
9.	Do.	Lambgaon Uttarkashi	30	18.00
10.	Do.	Nagun Mukhama	24	14.00
11.	Do.	Kirtinagar Chirabatiya	26	. 15-50
12.	Do.	Tehri Deo priyag via Khas	40 ·	20.00
13.	Do.	Tehri Deopriyag on right bank of Bhagirthi	40	27.00
14.	Dő.	Dhrasu- Yamotri road (Dundi Yalgaon to Beef)	40	20.00

1)		(2)	(3)	(4)
15.	Const. of Motor Road from	Chamba Müssoorie (Kanutel Buranshkanda Portion)	Miles 13	6.50
16.	Do.	Nangaon-Purela-Jarmola San-dhara	35	21 · 30
17.	Do.	Tuni Naitwar	20	10.00
18.	Do.	Uttar Kashi Agrea Dodital (Gangoridagora)	9	5 · 40
19.	Do.	Chamba Pujargaon Maldeota Portion of Tehri Dehradun Road	40	20.00
20.	Do.	Pujargaon Kaddukhal	10	5.00
21.	Do.	Bari Nakuri	10	6.00
22.	Do.	Dhamelti Pari	40	20.00
23.	Do.	Maugaon Mussoorie via Kan- dhari That & Magra	40	20.00
24.	Do.	Ghansali Ghutta	20	10.00
25.	Do.	Badiyargad Jakhini	25	15.00
26.	Do.	Bhaldiyana Thangdhar	20	10.00
		_	726	459.50

LIST OF MAJOR BRIDGES TO BE CONSTRUCTED ON MOTOR ROADS INCLUDED IN MASTER PLAN FOR 20 YEARS IN TEHRI GARHWAL DISTT.

SI. No.	Name of Bridges	Approx. Span	Approx. cost in lakhs	Remarks
1.	Bridge over Janhi at Bhaironghati on Bhatwari-Gangotri Road	300′	7.50	These bridges are not included in the road pro-
2.	Bridge over Bhagirathi at Malla on Bhatwari Rudhakedar Road	100′	2.00	jects as they are major bridges.
3.	Bridge over Balganga at Budhakedar on Budhakedar Ghansali Road	200′	4.00	
4.	Bridge over Bhilangana at Ghansali on Budhakedar Ghansali Road	200′	4.00	
5.	Bridge over Nailchamiged on Ghansali Chirbatia Bhird Road	100′	2.00	
6.	Bridge over lasterged near Panjana on Ghansali Chirbatia Bhiri Road	100′	2.00	
7.	Bridge over Mandakiniat Bhiri on Ghansali Ghirbatis Bhiri Road	100′	2.00	
8.	Bridge over Mandakani at Tilwara on Tilwara-Jakhani Road	200′	4.00	
9.	Bridge over Jalkur at Seea on Lambgaon Mukhem Road	100′	2.00	

SI. No.	Name of Bridges	Approx. Span	Approx. cost in lakh	Remarks
10.	Bridge over Bhilangana at Tehri on Lamb- gaon Tehri Road	200	4.00	
11.	Bridge over Bhagirathi at Uttar-Kashi on Lambgaon Uttarkashi Road	300′	6.00	
12.	Bridge over Bhagirathi at Nagun on Nagun Mukhem Road	200	4.00	
3.	Bridge over Yamuna at Naugaon on Naugaon Purola, Jarmola Road	140′	2.80	
14.	Bridge over Aglargad at Thatyur on Maugaon Mussoorie Road	100′	2.00	
	Total		48 · 30	

LIST OF BRIDGE ROADS IN BORDER AREA IN TEHRI GARHWAL DISTT. TO BE CONSTRUCTED IN 20 YEARS MASTER PLAN

Sl. No.	Name of Road		Approx. Length in miles	Approx. cost in lakhs	Remarks
1.	Agora to Dodilal		12	1 · 20	There are no roads in this
2.	Bhankoli to Bhatwari		15	1.50	area. To open
3.	Bankoli to Khasti		18	1.80	the interior or- chard and pas- ture areas these
		सद्यमेव	45	4.50	roads are essen- tial.

MOTOR ROADS FOR 20 YEARS MASTER PLAN IN GARHWAL DIVISION

Si. No.	Name of Motor Road (2)	Length in miles (3)	Approxi- mate cost in lakhs. (4)
1.	Događđa to Durga Devi (Mehalchauri)	52	20.0
2:	Nainidanda to Khadrasea	15	9.0
3. ⁻	Satpuli-Baijrao	38	19.0
4.	Marora Byasghat	9	5.0
5.	Nalekhal to Lachamanjhula (Portion of Deogadda Lachman Jhula Road)	45	25.0
6.	Lansdown to Rikhinikhal	30	18.0

1	2	3	4
7.	Baijrao Via Thalisan to Dewalkhal	45	30.0
8.	Pauri (Handakhal) Musagali Bharsar and Thalisain	45	30.0
9.	Pauri to Deopriyag	24	10.0
10.	Guptakashi to Gauri Kund	24	20.0
11.	Kakargad Okhimath Chamoli	40	25.0
12.	Bhiri Pakhari Nand-Priyag	35	20.0
13.	Byasghat to Deopriayag	11	6.0
14.	Simali Talwari and Connecting Tharali (Karanpriyag Gwaldon Road)	•	20.0
15.	Thorni Nordhashari Davidi Maradali	26	20.0
16.		20	14.0
17.	Nand Prayag Ghat Tharali	49	25.0
	Birhi to Gana Lake	10	6.0
18.	Pudrapriyag to Khirasoo	30	20.0
19.	Santudhar Musagali Paithani	51	40.0
20.	Pudrapriyag to Mohankhal	30	18.0
21.	Kotdwara, Kanwa Ashram Paukhal	18	9.0
22.	Laldhungi Kotdwar Haridwar	74	40.0
23.	Gumkhal Dwarikhal	7	3.0
24.	Joshinath to Suraintheta (Bordar area)	20	20.0
25.	Joshimath to Hanuman chati (Joshimath Badrinath route) (Border area)	25	25.0
26.	Govindghat to Gangaria (Border area)	12	8.0
	-	785	485∙0

BRIDGE ROADS IN BORDER AREA IN GARHWAL DISTRICT

Sl. No.	Name of Road	Length in miles	Approxi- mate cost in lakhs	Priority	
1.	Ghat Ramani Quarry pass Tepoban (Intruction)		24	1.50	~
2.	Quarry pass to Joshimath		15	1.50	
3.	Gangaria to valley of flowers		4	•40	
4.	Gangaria to Hemaund (Lokle pall)	:	5	0.75	
			48	4.15	

185

LIST OF MOTOR ROAD, BRIDGES IN GARHWAL DURING 20 YEARS MASTER PLAN

Sl. No.	Name of Bridge	Nos.	Cost in lakhs	
				Rs.
1.	Jishimath Hanumanahati 4 Nos. Bridge	• •	4	16.0
2 .	Bajrao Thalisun Dewleldwal		3	7.5
3.	Santudhar Masagali Paithan Karanprayag		2	.6.0
4.	Buri Nandprayag	••	1	3.0
5.	Pandukeshwar Gangariaya	•	i'	3.0
-6 .	Degadda Durgadevi		1	3∙5
7.	Joshimath Suraithola		1	2.5
*	Simali Tharali Motor Road	••	2	6.0.
9.	Nandprayag Tharali	••	1	2 5
10.	Guptakashi Gaumikuni		1	2.5
11.	Kakaragad Okhimith Ghamili		1	5.0
12.	Nainidanda Khadrasea	••	1	2.5
13.	Laldhuni Kotiwara Hardwar over Kamganga		1	5.5
	47-104		•	65.5

APPENDIX-U.P./'D'

SCHEME FOR CASTOR PLANTATION IN HILL AREAS OF U.P.

Proposal for Staff

The	following stat	f will	be nee	eded fo	r succes	sful i	mplem	entatio	n of th	e schem	16 :—
i.	Senior Oilseed	is Insp	ector	(200-	15350)	••	••	••	••	1
2.	Oilscods Inspe	ctors ((120	-250)	• •				••	••	5
3.	Junior Oilsee	is Insp	ector	(75—5	120)	•• -	••	••		••	60
4.	Office Clerk (60—10	0)				••	••		••	1
5.	Office Peon	••					••	•/•	••	••	1
6.	Dak runner	••	• • •		••	••	••	••	••	••	1

Besides the above staff for undertaking the development work, it will be necessary to make some provision for the supply of free seed so that the cultivator may have some inducement of taking up the cultivation of castor.



APPENDIX—U.P./"E' Statement Showing the Details of Expenditure on the Scheme for growing Castor on Hill Stopes in Uttar Pradesh

1	19-0961	1961-62	1962-63	1963-64	1964-65	1965-66	Total
I. Pay of Establishment							
9	2,000	2,580	2,760	2,940	3,120	3,580	16,980
2. Five Otheroda Inspectors in the scale of Ra. 120-6-210-10-250	oo'9	7,560	7,920	8,280	8,640	9,750	48,150
3. Sixty Junior Oilseeds Inspectors in the scale of Rs. 75—5—120	45,000	57,600	61,200	64,800	68,400	78,000	3,75,000
4. One office clork in the scale of Rs. 60-4-100	009 0	770	820	870	920	970	4,950
5. One Office peon $\begin{cases} 5 & \text{one Office peon} \end{cases}$	9 स्या	099	95	069	700 7	770	4,030
	54,140	69,170	73,370	77,580	81,780	93,070	4,49,110
II. Allowances & Honoraria 1. Dearness Allowance	20,940	27,220 50,000	27,220	27,220 50,000	27,720 50,000	27,72 50,000	1,57,040
	70,940	77,220	77,220	77,220	022,77	77,220	4,57,040
III. Contingencies—Recurring:	4,000	000' \	4,000	4,000	4.000	4.000	24.000
2. Publicity & Propaganda	4,000	4,000	4,000	4,000	4,000	4,000	2,000
3. Plant Protection measures 4. Cost of seed and its transport	5,250	4,000	6,000	4,000	6,000 4,000	6,000 000,4	36,000 25,259
	19,250	18,000	18,000	18,000	18,000	, 18,000	1,09,250
TOTAL RECURENCE	1,44,330	1,64,390	1,68,590	1,72,800	1,77,600	1,88,290	10,15,400

			į	APPRINDIX-	APPENDIX-U.P./'E'-contd.	ontd.				.1
	. •			19-09-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
IV. Non-recuring Furnitum A. Tybownike	g TvBowniter	:	:	900°5	1	1	1	. 1	. 1	\$,000
		GRAND TOTAL	;	1,49 330	1,64,390 1,68,590	1,68,590	1,72,800	1,72,800 1,77,000 1,88,290	1,88,290	10,20,400
		Assistance	प्रत्यभव जयने _{स्थ} र्ग ह	the Indian	Central 0	Assistance from the Indian Central Oilseeds Committee	ımittee		-	
Non-recurring	Recurring	Total	ŘŘ	Receipts	Net cost	Sha	Share of the Committee	mittee	Remarks	
5,000	10,15,400	10,20,400	-		10,20,400		10,15,400	·		

APPENDIX-U.P./'F'

1	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66 Total	Total
	C.		Si Si				
2 1	2,000	2,000	2,000	2,000	2,000	7,000	12,000
Recutting Denoustration & Publicity	11,000	1,000	1,060	1,000	1,000	1,000	9,000
Subsidy on suckers & bulbils of Agave Sisalans & Agave Maxicons	2,000	2,000	2,000	2,040	7,560	0907.	12,000
Non-recenting	2,000	2,000	1	1		1.	10,000
GBAND TOTAL	10,000	10,000	2,000	2,000	2,000	\$,000	40,000

APPENDIX—U.P.f.G'
Estimates of the Scheme for the Establishment of Regional Research Station in Hills

Charge Regional Research Station L.S. Junior scale (250—850) 1 Total Pay of Officer 2,500 3,300 Total Pay of Officer 3 6,000 7,740 saistant in S.A.S. Gr. III (75—120) 3 2,250 2,880 60—3—90—4—110) 2 1,200 1,512 27—4—32) 1 270 330 hmen (27—4—32) 2 540 660 miory atory Mate (27—4—32) 2 540 660 Attendants (27—4—32) 3 810 990 Attendants (27—4—32) 1 270 330 Peon (27—4—32) 1 270 330 Peon (27—4—32) 1 270 330 Peon (27—4—32) 1 270 330		No. of post	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
Total Pay of Officer 2,500 3,300 ment ch Assistant in S.A.S., Gr. I ch Assistant in S.A.S., Gr. II ch Assistant in S.A.S., Gr. I ch Assistant in S.A.S., Gr. I ch Assistant in S.A.S., Gr. I ch Assistant in S.A.S., Gr. I	nal Research Statio ale (250—850)	n .	2,500	3,300	3,600	3,900	4,200	4,875	22,378
tesearch Assistant in S.A.S., Gr. I 1350) 1350) 1350	Pay of Officer		2,500	3,300	3,600	3,900	4,200	4,875	22,375
60-3-90-4-110) 3 2,250 2,880 60-3-90-4-110) 2 1,512 27-4-32) 330 hmen (27-4-32) 5 1,350 1,650 men (27-4-32) 2 5 1,650 men (27-4-32) 2 5 9 atory 330 atory Attendants (27-4-32) 3 810 9 Attendants (27-4-32) 3 810 9 Peon (27-4-32) 3 810 9 ty Peon (27-4-32) 1 270 330 ty Peon (27-4-32) 1 270 330	stant in S.A.S., Gr.	e	000'9	7,740	8,280	8,820	9,360	10,725	50,925
60-3-90-4-110) 2 1,200 1,512 27-4-32) 1 270 330 hmen (27-4-32) 5 1,350 1,650 men (27-4-32) 2 540 660 ntory atory Mate (27-4-32) 1 270 330 Attendants (27-4-32) 3 810 990 Attendants (27-4-32) 3 810 990 Peon (27-4-32) 1 270 330 by Peon (27-4-32) 1 270 330	A.S. Gr. III (75-12	6) 3	2,250	2,880	3,060	3,240	3,240	3,915	18,765
27—1—32) 1 270 330 hmen (27—1—32) 5 1,350 1,650 men (27—1—32) 2 540 660 utory attory Mate (27—1—32) 1 270 330 Attendants (27—1—32) 3 810 990 Attendants (27—1—32) 3 810 990 Peon (27—1—32) 1 270 330 by Peon (27—1—32) 1 270 330	(011—4		1,200	1,512	1,584	1,656	1,728	1,950	9,630
(27-4-32) 5 1,350 1,650 (27-4-32) 2 540 660 Mate (27-4-32) 1 270 330 Attendants (27-4-32) 3 810 990 dants (27-4-32) 3 810 990 (27-4-32) 1 270 330 10 (27-4-32) 1 270 330	:	-	22 14 14	330	336	342	348	384	2,070
(27-1-32) 2 540 660 Mate (27-1-32) 1 270 330 Attendants (27-1-32) 3 810 990 dants (27-1-32) 3 810 990 (27-1-32) 1 270 330 nn (27-1-32) 1 270 330	(25.	٠	1,350	1,650	1,680	1,710	1,740	1,920	10,050
Mate (27—1—32) 1 270 330 Attendants (27—1—32) 3 810 990 dants (27—1—32) 3 810 990 (27—1—32) 1 270 330 14 0.07—1—32) 1 270 330	-32)		240	099	672	25	969	768	4,020
(27-4-32) 3 810 990 (-32) 3 810 990 (2) 1 270 330 (2) 1 270 330	27—1—32)	-	270	330	336	342	348	384	2,010
-32) </td <td>ants (27—4—32)</td> <td>m ·</td> <td>810</td> <td>86</td> <td>1,008</td> <td>1,026</td> <td>1,04</td> <td>1,152</td> <td>6,030</td>	ants (27—4—32)	m ·	810	86	1,008	1,026	1,04	1,152	6,030
(2) 1 270 330 (2) 1 270 330	27-4-32)	en	810	86	1,008	1,026	1,04	1,152	6,030
1 270 330	32)		270	330	336	342	348	384	2,010
17.740	+-32)	-	270	330	336	342	348	384	2,010
74/1/1			14,040	17,742	18,636	19,530	20,424	23,118	1,13,490

Desmess Allewance	7,350	8,820	8,820	\$.820	8,820	5,55	\$2,185
Travelling allowance	1,500	1,500	1,500	1,500	1,500	1,500	0006
	8,850	10,320	10,320	10,320	10,320	11,055	61,185
5. Works etc.							
(a) Price of Land Terracing, & Clearance charges @ 2,000 per acre for 50 acres	1,00,000	i	1	i	i	i	1,00,000
(b) Irrigation Facilities 20,000	20,000	i	1	ŀ	ŀ	1	20,000
(c) Essential Farm Buildings	ı	20,000	1	1	ŀ	1	20,000
(d) Laboratory Buildings	25,000	1		ı	1	1	25,000
(e) Residential Quarters for Officer Incharge, Farm Superintendents, Clerk, Research Assistant etc.	39,000	20,000	1	j	1	1	89,000
	1,84,000	1,00,000	200	1	1	1	2,84,000
6A. Contingencies		9					
Non-recurring:							
(a) 5 pairs of Bullocks@ 500 each	2,500	ı	I	j	I	1	2,500
(b) Implements etc.	2,500	i	ı	ı	ì	ł	2,500
(c) Laboratory equipments	2,000	10,000	l	ļ	ı	i	15,000
(d) Typewriters	1,200	ì	1	ì	1	l	1,200
(c) Furniture	1,000	1	ŧ	1	l	1	1,000
TOTAL NON-RECURRING	12,200	10,000		ì	ı	ı	22,200

		•	AFFENDI	APPENDIX—O.F./ G —conto.	-conto			,	!
		1960-61	19:	1961-62	1962-63	1963-64	1964-65	1965-66	Total.
6. B. Contingencies Recurring		1	G	37	6				
(a) For Farms	: :	000'9	000	000'9	000'9	000%	9000	000'9	36,000
(b) For Laboratory	: : :	25	2,000	2,000	2,000	2,000	2,000	2,000	12,000
	TOTAL RECURRING	88	8,000	8,000	8,000	8,000	8,000	8,000	48,000
	GRAND TOTAL	2,29,590	290	1,49,362	40,556	41.750	42,944	47,048	5,51,250

TOTAL COST OF THE SCHEME: Rs. 5,51,250

APPENDIX-U.P./H.

Financial Aspect of the Scheme for the Development of Potatoes in the Innecessible Areas

Divisional Staff		19-09-61	1961-62	1962-63	1963-64	1964-65	1963-66	Tota
(D)		(2)	3	. 4	3	9	6	8
HEADQUARTER STAFF								
One Asstt. Accountant (100-170)	:	1,100	1,296	1,392	1,488	1,584	1,704	8,564
One Senior Clerk (80,-140)	:	880	1,032	1,104	1,176	1,248	1,320	6,460
One Junior Clerk (60—110)	:	099	756	792	828	864	946	4,846
One Peon (27—4—32)	:	297	330	336	342	348	354	2,007
TOTAL	:	2,937	3,414	3,624	3,834	4,044	4,324	22,177
Allowanies		मिव						
D.A 1x35	;	385	420	420	420	420	450	2,485
2×30	:	099	720	720	720	720	72.	A COSEO
1×27·50	:	302.50	330	330	330	330	330	1,952-50
C C A: 1×1.	:	11	12	12	12	12	12	Tho.v
T.A	;	20 0	9	200	200	200	200	3,000
TOTAL	:	1,858.50	1,982	1,982	1,982	1,982	1,982	11,768-50
Pay of College								
One Pating Developishin Officer Traces- which areas (250-800)	ģ :	2,730	3,300	3,600	3,980	4,200	4,500	22,250
		9740	3-300	1600	2.000	7 300	7 (00	03.5 60

			¥	APPENDIX - U.P.J'H CONIA.	H-contd.		,	Ī	
	(E)		(3)	(3)	€	છ	9	3	8
HEADQUAR Pay of Establishment	HEADQUARTER STAFF—conid.	contd.							
One Potato Development 1 (120—6—210—10—250)	opment 10-250	Inspector, Gr. II	1320	1,512	1,584	1,656	1,728	1,800	009'6
One Senior Clerk (80-5-100-6-139)	rk (80-5-100-	-6-130)	880	1,020	1,080	1,140	1,200	1,272	6,592
Two Routine Clerks including Typist (60-3-90-4-110)	Clerks includ	ing Typist	1,320	1,512	1,584	1,656	1,728	1,800	009'6
One Assistant Accountant EB-10-170)	(100-	-8-140-	1,110	1,288	1,394	1,480	1,576	1,672	8,510
One Orderly Peon (27-4-	on (27-4-32)	:	297	330	336	342	348	354	2,007
One Chaukidar (27—4—32)	(27-1-32)	:	297	330	336	342	348	354	2,007
Two Office Peon (27—4—32)	n (27-4-32)	:	594	607	672	684	969	702	4,008
One Dak Runner (27—4—32)	er (27-4-32)	:	297	330	336	342	348	354	2,007
One Sweeper	$(27 - \frac{1}{4} - 32)$:	297	330	336	342	348	354	2,007
			6,402	7,312	7,658	7,984	8,320	8,662	4,61,338
Allowances	35.35		022	040	040	070	049	076	
	CC Y 7	:	2	?	ŧ	E	₹	₹	5,4,6
	1×30	:	330	360	360	360	360	360	2,130
	2×32·50	:	715	780	780	780	780	780	4,615
	6×27·50.	:	1,815	1,980	1,980	1,980	1,980	1,980	11,715
C. C. A.	6×1	:	99	72	72	72	72.	72	426
T. A	:	:	3,000	3,000	3,000	3,000	3,000	3,000	18,000
			969'9	7,032	7,032	7,032	7,032	7,032	41,856

District Development Staff Pay of Establishment Four Distt. Potate Dev. Inspectors 1 in each district (200—350)	.g :	8,880	10,320	11,040	11,760	12,480	13,200	67,600
Sixteen Hd. Chaudharies (45-22-65 EB-3-80)	્રું :	7,920	9,024	9,408	9,992	10,176	12,096	58,616
Thirty Kamdars (32-1-37)	:	9,504	10,560	10,752	10.944	11,136	11,520	64,416
Four Clerk-cum-Store-Keeper 1 in each district (60-110)	cach :	2,640	3,024	3,168	3,312	3,456	3,888	19,488
Four Dak Rumers (27-4-32)	:.	1,188	1,320	1,344	1,368	1,392	1,416	8,028
Four Porters (27—4—32)	:	1,188	1,320	1,344	1,368	1,392	1,416	8,028
		31,240	35,568	37,056	38,744	40,032	43,530	2,26,176
Allowances		ar						
Dearness Allowance 4×35	:	1,540	1,680	1,680	1,680	1,680	1,680	9,940
4×32·50	:	1,430	1,560	1,560	1,560	1,560	1,560	9,230
8×27-50	:	2,420	2,640	2,640	2,640	2,640	2,640	15,620
48×27-50	:	14,520	15,840	15,840	15,840	15,840	15,840	93,720
C. C. A. 56×1	:	919	672	672	672	672	672	3,976
TOTAL	:	20,526	22,392	22,392	22,392	22,392	22,392	1,32,486
FARM STAFF Pay of Establishment								
16 Farm Supdt. (120-250), Gr. II	:	21,120	22,272	23,414	24,566	25,718	26,870	1,43,960
64 Malies (27—4—32)	:	19,008	21,120	21,504	21,888	27,272	22,656	1,28,448
		40,128	43,392	.44,918	46,454	47,990	49,526	2,72,408

-contd.
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APPRINDIX

		County In Section 1		•		,		
(1)		(2)	(3)	(4)	(3)	9)	6)	8)
FARM STAFF—conid.								
Пожалсез								
D.A. 16×35	:	6,160	6,720	6,720	6,720	6,720	6,720	39,760
64×27·50	:	19,360	21,120	21,120	21,120	21,120	21,120	62,480
		25,520	27,840	27,8	27,840	27,840	27,840	1,02,240
Contingencies (Recurring)		মত						
(a) Office Contingencies		1,000	1,000	1,000	1,000	1,000	1,000	6,000
(b) Farm Contingencies including Manures, Labour, Irrigation, Up-keep of bullock etc. (g) Ks 600 per acre	inding Man- Up-keep of per acre	96,000	000'96	000'96	000'96	96,000	000'96	5,76,000
(c) Subsidy 1 (f) For Trapsport of fertuizers 5,120 mas. (g) Rs 2 per and. for 1280 weres	d. for 1280	10,240	10,240	10,240	10,240	10,240	10,240	61,440
(ii) For Transport of inse	insecticides	8,000	8,000	8,000	8,000	8,000	8,000	48,000
(d) Office rent for P.D.O's Office p.m.	Office @ Rs.	1,100	1,200	1,200	1,200	1,200	1,200	7,100
(e) Office rent for District P.D.Is. Office ay Rs. 50 per month ench	rick P.D.Is.	2,200	.2,400	2,400	2,400	2,400	2,400	34,300
		1,08,300	1,18,840	1,18,840	1,18,840	1,18,840	1,18,840	7,02,500

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Non-Rec	
ngencles (
onth	

1. Cost of land, exaring of Jungle and leveling etc. 160 acres for 16 unit	igle and 16 units	4,90,000	1"	1	j	4	* †	4,00,000	
2. Fencing @ Rs. 500 per acre	:	ļ	80,000	ľ	1	1	, 1	80.000	
3. Purchase of 16 pairs of Bullocks (one pair for each centre) @ Rs. 750 per pair	ocks (one Rs. 750	12,000	1	1	1	į	. 1	12,000	
4. (a) Construction of 16 stores, 12 of one thousand mas, capacity each and four of four thousand mas, capacity each	ity each ity each id mds.	I	1,00,090	6	1	I	. 1	1,00,000	
(b) 1. Construction of Farm Supdt,'s quarter @ Rs. 10,000	Supdt.'s	1,60,000		l	_ (6	i	1	1,60,000	
2. Malies quarters @ Rs. 10,000 per Farm	. 10,000	াৰ সহ	1,60,000			1		1,60,000	
3. Bullock shed, Implements shed etc. @ Rs. 5,000 per Parm	onts shed er Parm	80,000	l N	1	I	I	1	80,000	
5. Plant Protection equipment @ Rs. 500 per centre	Rs. 500	8,000	l	1	i	1	ı	8,000	
6. Implements and dead stock	;	2,000	i	ı	ı		I.	5,000	
7. Tynewziter for the office	:	1,200	1	I	ĺ	1	1	1,200	
8. Water Beautious one at each centre	centre	i	2,40,000	i	1	1	t	2,40,000	
		6,66,200	000'08'S	[1	.1	1	1	12,46,200	

APPENDIX-U.P./H'-contd.	
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APPENDIX-U.P.	Ħ
APPENDIX-L	ď.
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API	
	API

(I)		(3)	(3)	€	(5)	9	6	8
Estimates of Income Seed potato produced from 160 16,000 mds. @ Rs. 20 per md.	acres,	I	3,20,000	3,20,000	3,20,000	3,20,000	3,20,000	16,00,000
TOTAL	:	1	3,20,000	3,20,000	3,20,000	3,20,000	3,20,000	16,00,000
			ABSTRACTS					
Pay (1)		1960-61	1961-62	1962-63	1963-64 (5)	1964-65	1965-66	Total (8)
Pay of Officer	:	2,750	3,300	3,600	3,900	4;200	4,500	22,250
		2,750	3,300	3,600	3,900	4,200	4,500	22,250
Pay of H. Q. Establishment	:	2,937	3,414	3,624	3,834	4,044	4,324	22,177
Pay of Div. Estiblishment	:	6,402	7,312	7,658	7,984	8,320	8,662	46,338
Pay of Distt. Establishment	:	31,240	35,568	37,056	38,734	40,032	43,536	2,26,176
Pay of Farm Establishment	;	40,128	43,392	44,918	46,454	47,990	49,526	2,72,408
TOTAL	:	80,707	989'68	93,256	910,76	1,00,386	1,06,048	5,67,099
Allowances Headquarter Staff Allowance .	:	1,858	1,982	1,982	1,982	1,982	1,982	11,768
Div. Staff Allowance	:	969'9	7,032	7,032	7,032	7,032	7,032	41,856
Distt. Dev. Staff	:	20,526	22,392	22,392	22,392	22,392	22,392	1,32,486
Farm Staff Allowance	:	25,530	27,840	27,840	27,840	27,840	27,840	1,64,720
		54,600	59,246	59,246	59,246	59,246	59,246	3,50,830

Pay of Officer	:	:	:	:	2,750	3,300	3,600	3,900	4,200	4,500	22,250
Pay of Establishment	nent	:	:	:	80,707	989'68	93,256	97,016	1,00,386	1,06,048	5,67,099
Allowances	:	:	:	:	24,600	59,246	59,246	59,246	59,246	59,246	3,50,830
Contingencies	:	:	:	:	1,08,300	1,18,840	1,18,840	1,18,840	1,18,840	1,18,840	7,02,500
					2,46,357	2,71,072	2,74,942	2,79,002	2,82,672	2,88,634	16,42,679
Contingencies					मिव						
Recurring	:	:	:	:	2,46,357	2,71,072	2,74,942	2,79,002	2,82,672	2,88,634	16,42,679
Non-Recurring	:	:	:	:	6,66,200	5,80,000		I	i	1	12,46,200
GRAND TOTAL (for four	(for fo	ur districts)	icts)	:	9,12,557	8,51,072	2,74,942	2,79,002	2,82,672	2,88,634	28,88,879

Expenditure for five districts-Rs. 36.24 lakhs

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APPENDIX-U.P./I'	3,00
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•	Estimate for the Establishment of two Multipurpose
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	Š.	Ist year	п	Ш	IV	>	Ņ	Total
(1)	28	ව	€	(5)	9	6	(8)	6)
Pay of Establishment 1. Horticulture Inspectors in S.A.S., Gr. II (120-250)	_	1.200	1,512	1,584	1,656	1,728	1,950	069'6
2. Supervisors in S.A.S., Group III (75— 5—120)	7	1,500	1,920	2,040	2,160	2,280	2,600	12,500
3. Clerk at Headquarters (60-110)	- '	909	756	792	-828	864	975	4,815
4. Malies (22—4—27) (4 for each Centre)	00	1,760	2,160	2,208	2,256	2,304	2,548	13,236
TOTAL	12	2,060	6,348	6,624	006'9	7,176	8,073	40,181
Allowances and Honoraria D. A		3,640	4,368	4,368	4,368	4,368	4,732	25,844
т.А		1,000	1,000	1,000	1,000	1,000	1,000	000/9
TOTAL		4,640	5,368	5,368	5,363	5,368	5,732	31,844
Contingencies: Recuring								
Misc. Office Contingencies		250	250	250	250	250	250	1,500
Subsidy for transport of Fertilizers and		8,000	8,000	8,000	8,000	8,000	8,000	48,000
Farm and Nursery Centre (Seeds Manures, etc.)		12,000	12,000	12,000	12,000	12,000	12,000	72,000
		20,250	20,250	20,250	20,250	20,250	20,250	1,21,500

3,37,525	340.55	32,794	32,518	32,242	31,966	1,73,950	GRAND TOTAL	GRANI
1,44,000	i	1	1	l	1	1,44,000	ECURRING	TOTAL NON-RECURRING
000'09	ı	1	1	1	ì	000'09	voir and tanks	Construction of Reservoir and tanks including pumps for irrigation
2,000	I	i	l	ş I	1	2,000	;	Implements
16,000	i	-1	1	at a		16,000	ers and Vegetable	Godown of ginger Fertilizers and Vegetable seeds
10,000	1	l	ì	1	l	10,000	:	Office-cum-Store
4,000	1	ı	i			4,000	:	Cattle sheds
20,000	1	I	i		I \	20,000	and Supervisor's	Construction of Malies quarter
2,000	ı	ı	ì	I	f	2,000	illocks	Purchase of 2 pairs of Bullocks
10,000	ı	ı	ı	ı	1	10,000	:	Fencing
20,000	1	1	i	i	1	20,000	: :	Cost of Land 20 acres
								Contingencies Non-recurring

M2F&A-14

APPENDIX—U.P./·1'
Estimates in connection with the scheme for soil and water conservation

	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total 1960—66
(1)	(2)	(3)	4	(ડ)	9	(£)	(8)
I. Pay of Officers 1. One District Soil Conservation Officer, Class II (250—850)	2,750	3,300	3,600	3,900	4,299	4,500	22,250
2. Five Assistant Engineers in Class II (250-850)	13,750	16,500	18,000	19,500	21,000	22,500	1,11,250
	16,500	19,800	21,600	23,400	25,200	27,000	1,33,500
II. Pay of Establishment 1. Five Senior Inspectors in S.A.S., Gr. I (200-15-350)	11,000	12,900	13,800	14,700	15,600	16,500	84,500
2. Ten Inspectors in S.A.S., Gr. II (120—250)	13,200	15,120	15,840	16,560	17,280	18,000	000'96
3. Fifteen Overseers (120-250)	19,800	22,680	23,760	24,840	25,920	27,000	1,44,000
4. Thirty Five V.L.W.s (75-5-120)	28,880	33,600	35,700	37,800	39,900	42,000	2,17,880
5. Five Asstt. Accountants (100-170)	2,000	6,480	6,960	7,440	7,920	9,100	42,900
6. Five Acctts,-cum-Typist Clerks (60-110)	3,000	3,780	3,960	4,140	4,320	4,875	24,075
7. Twenty Guards (22-1-27)	4,400	5,400	5,520	5,640	5,760	6,370	33,090
8. Six Orderly Peons (27—4—32)	1,620	1,980	2,016	2,052	2,088	2,301	12,057
9. Six Dak Runners (27—4—32)	1,620	1,980	2,016	2,052	2,088	2,301	12,057
10 One Clerk (60-110) for Soil	009	. 626	672	708	744	855	4,215

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1,90,228 1,98,220 2,06,212	
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26,25,000 26,25,000 26,25,000	26,2
1,98,220	-
26,25,000 26,25,000 26,25,000	26,
28,15,228 28,23,220 28,31,212	82

APPENDIX-U.P./'K'

Statement giving details of Proposed Hydram Scheme and Pumping Scheme to be run by Hydroelectric Power

4	1	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	Total	Totimoted	Pro	Proposed area in Acres	ea in Act		i Si	Additional Cost foodgrains	REMARKS
No. Schemo	District	Coaron	pedund panubed	cost	Fruits Rabi		Kharif Total	^	acte	be produced annually in tons	
3	ල	(4)	છ	88 (9)	9	8	6)	(10)	(11)	(12)	(13)
Okhlet and Garhv Ghauma son pump Irriga- tion scheme.	Garhwal	The scheme Four is situat- pumping ed near Stations Satpuli town. 1.238	Four pumping Stations 1.238′ 2.212′ 3.150′ 4.150′	3,98,800	22	296	295	613	650	130.02 Water from the first from the fr	from 4 stations for irrigation purpose. Hydro-electricity will be generated by this scheme locally for pumping water. Ample discharge is available for generating electricity. Length of power channel—2 miles. Authorised discharge of power channel—2 miles.

discharge of power channel = 15 cuses.
Discharge available = 15 cuses.
Head available = 250 ft. Installed dumping capacity 7 units of 35 H.P. = 183K.W. each.
Installed capacity of power house—200 K.W.
Net Revenue 0.58%

	400 23.76 When Tehri town is connected with Hydel Grid, the pumping sets will be run through the electricity thus received. The scheme is recommended by the District Magistrate.
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Scheme to	*
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oposed Pu	46,227
ils of Pr	195 fæt.
Statement giving details of Proposed Pumping Scheme to be run by all engines	The scheme is sited near Tehri Town
Staten	- Tehri- Garhwal.
	thoor Pumping Irrigation scheme.

		Staten	Statement giving details of gravity channels in the five hills districts of U.P.	gravity ch	annels in the	five hill	s distric	ts of U	.Р.			
				1 0000		Pro	posed an	Proposed area in acres	35	Ö	Addl.	
Serial No.	al Name of Scheme	f District	Tocation	min miles	Estimated 5	Fruits	Rabi	Kharif	Total	Rs.	grain expected to be produced	Order of priority
\mathfrak{S}	(2)	(3)	(4)	(5)	Rs. (6)	ε	(8)	(g)	(10)	(11)	(tons) (12)	(13)
	1. Hill channels in Dehradun Dehradun.	in Dehradun	Chakrata area	20-6-330	5,00,000	100	200	200	1,100	550	550 242.00	-
.4	2. Sarora Sakaili Minor	ili Garhwal	Kotdwara from Dagadda town.	04-330	10,000	4	21	21	4	230	9.24	п
ะ	3. Sari Minor	Do.	Situated in Napur Patti Opposite Gauchar.	9	1,03,000	8	150	55	330	310	00.99	Ħ
4.	4. Jogyane Boregaon Minor.	on Do.	Situated at 1 mile cost of dagable town.	1-0-0	11,000	ю	21	15	33	330	9.9	≥ 1
۶.	5. Kotibakret Minor Tehri Garhwal	or Tehri Garhwal	Situated at 3 miles from Rajgarhi.	2-1-0	000'59	15	8	8	195	325	39.60	>

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APPENDIX
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(12)	26.40	4.00 0	61 - 60	35.20	35.20	52.80	4.00	4 500	52.80	17.60	35.20	17.60	35.20	99	42-24	973.28
(11)	370	330	370	375	375	370	375	375	380	380	375	375	375	470	480	425
(10)	130	215	300	175	175	260	215	215	255	85	170	85	170	315	200	4,669
8	69	114	160	16	16	136	114	114	136	45	16	45	16	150	96	2,319
(8)	51	86	120	89	69	2	98	98	<u>1</u> 6	35	69	35	\$	150	%	91,96
6	01	15	8	15	115	8	15	15	15	\$	07	5	10	15	∞ ,	345
(9)	48,000	80,000	1,12,000	64,000	64,000	000'96	80,000	80,000	000'96	32,000	64,000	32,000	64,000	1,49,000	000'96	16,90,000
(2)	140	24-0	340	2-0-0	2.0.0	3-0-0	2-4-0	2.4.0	3-0-0	1-0-0	2.0.0	1-0-0	2-0-0	4-0-0	3-0-0	64-0-0
(4)	in Patti	in Malla	Situatedin Palla Gawar	Malla Chaukot	Talla Chaukot	Walla Nayee	Palla Athagulia	Malla Dera	Palla Barma	Palla Barma	Walla Gewar	Talla Johar	Malla Waldor	d on left of western River and miles from	Saupun. Situated in patti Ganjna Kathoor.	
	Situated in Malla Salam	Situated Rith agarh	Situated	:	•	2	2	2		2		•	=	Situated bank Nayar is 21	Situated Ganjna I	
9	Almora	Do.	L Do.	Do.	Ď.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Garhwal	Garbwal	
(2)	١.	7. Naugaon Minor	8. Ganai Minor	9. Pasalgaon Minor	10. Khargaon Minor	11. Naula Minor	12. Katyura Minor	13. Basena Minor	14. Oligaon Minor	L 15. Sunar Minor	16. Asethi Minor	17. Nachury Minor	18. Basti Minor	19. Masheta Mansu Minor	20. Barket Minor T.	
€	9	7.	φ,	6.	50.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	

*Total expenditure Rs. 21 lakhs (page 204-206).

	TOTAL	Rec. Non.		(12) (13)		49,311 —			1,450	9,500	21,200	17,100 —	3,200	3,700
	65	Rec.		(11)		1			I	1	7	1	1	1
	1964-65	Rec.		(10)		11,268			300	2,000	4,600	3,600	800	900
	2	Rec.		ତି		ı			i	i	ı	1	ŀ	ı
	1963-64	Rec.		€		10,800			300	2,000	4,600	3,600	800	800
	1962-63	Rec Zon		6	4) I	i	i	ı	ŀ	I
APPENDIX-U.P./'L'	1961	gg Sg		9		10,332	<u> </u>		300	2,000	4,350	3,600	800	800
-XIQNI	1961-62	Non-		(5)					1	I	ı	1	ı	i
APPE	1961	Rec.		(4)		9,864	5(9) 210a		300	2,000	4,350	3,600	908	800
	. 19	Non-	nonths	(3)		I	यनान	Well .	ł	i	ľ	1 .	I	I
	1960-61	Rec.	for 9 months	(2)		7,047	-		250	1,500	3,300	2,700	i	900
				(1)	ESTABLISHMENT OF ONE A.I. CENTRE WITH 10 SOB-CENTRES Pay of Establishment One Veterinary Officer (Rs. 200—15—350).	One Milk Recorder (Rs. 75—5—120)	One stockman (Rs. 45-2-65-E.B3-80.)	Four Bull attendants (Rs. 22—1—27)	Allowances & Honoraria Cycle allowance to Stockmen @ Rs. 3 p.m. each.	Travelling Allowance	Dearness Allowance	Contingencies for A.I. Centre Maintenance of 4 bulls @ Rs. 75 p.m.	Cost of a reserved bull for replacement	. Miscellaneous contingencies

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(13)	12,000	2,000	1,000	3,200	1,000	l	l	1	16,000	200	800	36,500	8,000	44,500	
(12)	1	i	l	i	i	51,300	2,500	2,500	I	ı	ı	1,61,761	i	1,61,761	2,06,300
(E)	ı	i	i	I	1	i	1	i	1	i	I	1	ı	l I	RS.
(10)	1	i	1	1	1	10,800	200	200	l	ı	1	35,168	i	35,168	
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€	I	ı	l	1	i	10,800	200	200	ı	I	I	34,700	1	34,700	
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9	l	1	1	I	ı	10,800	200	200	I	ŀ	1	33,982	1	33,982	
(5)	1	1	1	1				L	I	I	l	ı	1	١	
æ	I	Į	1	1		10,800	200	200	l	l	ı	33,514	١	33,514	
6	12,000	2,000	1,000	3,200	1,000	यहाँ । 	144	i	16,000	200	80	36,500	8,000	44,500	
3	l	ı	l	ı	1	8,100	200	909	1	. 1	1	24,397	1	24,397	
(1)	ESTABLISHMENT OF ONE A.I. CENTRE WITH 10 SUB-CENTRES—contd. A.I. equipment including Refrigerators, microscope, Tatooing sets, Milk recording equipment, Safe, Cycles, Petromex, Cattle Crush,	Service Creates	Furniture	Purchase of 4 bulls @Rs. 800 each	Medicine & Instruments	Contingencies for A.I. Sub-centres Subsidy for maintenance of 20 bulls @Rs 45 n m each	Cattle shows & rallies	Miscellaneous contingencies	Purchase of 20 bulls @ Rs. 800 each	Furniture	Castrators	TOTAL	Works Sheds for bulls at A.I. Centre	GRAND TOTAL	

7,00,800

ı		1	J	26,000	1,400	I	i	2,80,000	3,37,400
15,700	34,400	5,800	53,600	1	ı	2,45,200	8,700	į	3,63,400 3,37,400
1	1	ı	I	I	l	I	1	1	1
4,300	000'6	1,400	13,900	1	l	63,000	2,100	1	93,700
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4,100	8,600	1,400	13,900	1	ì	63,000	2,100	l	93,100
1	1	12	T.	16,000	400		I	80,000	96,400
3,700	7,800	1,400	12,600	Î	Ţ	58,500	2,100	ı	86,100
1	1	I		16,000	400	I	1	80,000	96,400
2,400	6,000	1,000	8,800			40,500	1,500	1	60,200
l	I	I	ľ	24,000	009	1	I	1,20,000	30,300 1,44,600 60,200 96,400 86,100 96,400
1,200	3,000	99	4,400	1	I	20,200	000	1	30,300
Per unit of 10 bulls Pay of Establishment 7 Stockmen (Rs. 45-2-65-E.B3-80)	35 Bull attendants (Rs. 22-1/2-27)	Allowances and Honoraria Travelling and other Allowances	Dearness Allowance	Contingencies Purchase of 70 bulls , @ Rs. 800 each	Stationery & Instruments @ Rs. 200 per centre.	Feeding of bulls @ Rs. 75 p.m. each	Medicines and other charges including Stamps and Stationery etc., @ Rs. 300 p.a. per centre	Works Bull sheds, Paddocks, Stores, attendants quarters etc. @ Rs. 40,000 per centre.	TOTAL

APPENDIX-U.P./'M'

Details of Expenditure on Sheep and Wool Development Scheme

(13)		ı	1	1	ı	Į	1	ı	ı
(12)		6,900	4,900	6,400	15,700	2,880	19,500	6,500	3,250
(11)		1	I	1	1	I	1	I	į
(10)		2,400	1,600	2,200	5,200	960	000'9	2,000	1,000
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€.		2,200	1,500	2,000	4,900	900	000'9	2,000	1,000
9		A STATE OF THE PARTY OF THE PAR	1	1	1 &	1	1	1	i
9		1,500	1,200	1,400	3,600	099	4,500	1,500	750
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(4)		800	009	800	2,000	360	3,000	1,000	200
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3		1	1	1	1	1	1	1	i
(C)	SHEEP & WOOL DEVELOPMENT SCHEME: (Establishment of 4 new stud ram centres (2 centres to be established in 1961-62 and one each in 1962-63 and 1963-64.)	Pay of Establishment 4 Stockmen @ Rs. 45-2-65-EB-3-80 p.m. each—one for each centre.	4 Master Shepherds @ Rs. 32-1-37 p.m. each-one for each centre.	8 Shepherds @ Rs. 22-1/2-27 p.m. each 2 for each centre.	Allowances & Honoraria Dearness Allowance	Fixed T.A. to Stockmen @ Rs. 20 p.m. each.	Contingencies Feeding charges of rams @ Rs. 1,500 per annum per centre.	Special drugs for dipping and drenching of sheep @ Rs. 500 per annum per centre.	Sheep show @ Rs. 250 per centre

1	9000	2,000	000'09	68,000	3,000	30,000	33,000	4,00,000	20,000	5,51,000	
3,900	ı	1	1	69,930	l	1	1	1		69,930	6,20,930
1	1	1	1	ı	1	i	1	ı	1	ı	
1,200	1	i	1	22,560	1	1		1	1	22,560	
1	1,500	200	15,000	17,000	ſ	1	ı	i	1	17,000	
1,200	1	ı	ŀ	21,700	ŀ	1	1	1	1	21,700	
I	1,500	200	15,000	17,000	·P	3		1	1	17,000	
<u>8</u>	1		Ī	16,010	î 1	1	1	i	ı	16,010	
1	3,000	1,000	30,000	34,000 16,010		I	1	2,00,000	1	9,660 2,34,000 16,010 17,000	
909	1	1	l	099'6		1	1	ı	1	099'6	
1	1	I	1	I	उपव नग्ने	30,000	33,000	2,00,000	20,000	2,83,000	
i	i	1	1	1	1	1	1	1	1	ı	
Miscellaneous contingencies including cultivation charges @ Rs. 300 per centre.	Purchase of 80 rams @ 20 rams for each centre.	Purchase of furniture and equipment @ Rs. 500 per centre.	Works Construction of sheep pens and residential quarters @ Rs. 15,000/-		IMPROVEMENT OF 2 EXISTING STUD RAM CENTRES Purchase of additional rams for proposed centres.	Construction of buildings for residential quarters and sheep pens.		PURCHASE OF FOREIGN SHEEP	Construction of Hostel at Pashulok (Dehra Dun).	GRAND TOTAL	

APPENDIX—U.P./N'
Details of Expenditure on Veterinary Aid

(13)		ı	i	1 1	1.1	i	I	ı	50,000 10,000	000'09	2,01,040 or
(12)		23,300	4,970	4,970	14,700 14,900	18,000	4,500	51,000	11.	1,41,040 60,000	2,01,0
(II)		I	I	1 1	1.1	1	1	1	1.1	I	
(10)		6,080	1,250	1,250	3,300 3,500	4,000	1,000	12,000	1.1	33,520	
8		1	1	1 1		I	1	i	11	1	
8		5,700	1,200	1,200	3,300	4,000	1,000	12,000	1 1	33,020	
e		I	1	11	-1 F	B	1	l	1-1	1	
9		5,340	1,150	1,150	3,300	4,000	1,000	12,000	1, 1	32,540	
(5)		1	f	L	[1]	I	1	I	25,000 5,000	30,000	
(4)		4,380	970	940	3,300 3,100	4,000	1,000	10,500	1.1	29,160	
(3)		1	1	11	계하의 취급 [I	ı	l	25,000 5,000	30,000	
(2)		1,800	400	2	1,500	2,000	200	4,500	1.1	12,800	
(1)	VETERINARY AID 2 Mobile Veterinary Dispensaries to be established (one in 1960-61 and the other in 1961-62).	Pay of Establishment 2 Veterinary Assistant Surgeons (Rs. 200-15-350).	2 Compounders-cum-Laboratory Assistants (Rs. 45-2-65-E.B.3-80 E.B4-100).	2 Drivers (45-2-65-E.B.3-80) 2 Cleaners 2 Peons (Rs. 22-1/2-27)	Allowances and Honoraria Travelling allowance Dearness Allowance	Contingencies Medicines including those for mass dipping and drenching and glass wares etc.	Miscellaneous contingencies including stationery & postage stamps.	Maintenance and running charges of Jeeps.	Cost of 2 Jeeps with trailors Cost of equipments, tents, microscope, post-morten etc.	Total ,,	

Establishment of 2 Mule Units (One unit is to be established in 1960-61 and the other in 1962-63).

Pay of Establishment:

Strength at each unit:

1			1	1		ı	ı	9000'9	9,000		96,000	003
26,700			14,200	8,200		8,000	24,100	i	81,200	87,200	2,22,000 66,000	2,88,200
i			i	ſ		I	[1	1			
7,700			3,800	2,200		2,000	6,500	ı	22,200			
1			1	1		1	i	1	1			
7,200			3,800	2,200		2,000	6,400	1	3,000 21,600			
I		E		1		1	ST.	3,000	3,000			
000'9		Contract Con	3,300	1,900		2,000	2,600	1	18,800			
i			1	1		1	i	1	1			
3,400		1	1,900	1,100		1,000	3,200	i	10,600	. 40	IEKI-	
1			840	1	413	I	1	3,000	3,000 10,600		מאר אבר מ	
2,400			1,400	800		1,000	2,400	1	8,000	1	NARY AID	
One Veterinary Assistant Surgeon (200-15-350). One stockman (45-2-65-E.B.3-80)	One Attendant (22-1/2-27)]	Allowances and Honoraria:	Travelling Allowance	Dearness allowance	Contingencies:	Parchase of equipment, medicines etc.	Feeding of 3 Mules at one Unit @ Rs. 3 per mule per day.	Purchase of 3 Mules for one Unit @ Rs. 1,000 each.				

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	41017	> ' : :				
Particulars 1	1960-61	1961-62	1962-63	1963-64	1964-65	Total 7
Establishment of Poultry Extension Centres— One in 1960-61 & other in 1961-62 Pay of Establishment						
1 Poultry Supervisor (75-5-120)	700	1,700	2,660	2,180	2,300	8,940
1 Poultry Attendant (22-1/2-27 or 27-1/2-32)	230	280	200	718	730	2,964
Allowances and Honoraria D.A	240	1,260	1,420	1,440	1,440	6,100
T.A	200	400	400	400	400	1,800
	1,670	3,940	4,586	4,738	4,870 say	19,804
Contingencies—Recurring for Poultry Extension Centres	(1) (4) (4) (4)					
1. Cost of feeding of 50 birds	700	1,600	1,800	1,800	1,800	7,700
2. Miscellaneous contingencies	1,000	2,000	2,000	2,000	2,000	6,000
	1,700	3,600	3,800	3,800	3,800	16,700
Contingencies—Non-Recurring for Poultry Farms						
1. Feeding for chicks upto 5 months at Govt. Poultry Farms	3,000	3,000	1	1	Ţ	000'9
2. Housing and rearing of chicks @ Rs. 10 per chick-500 chicks	2,000	5,000	l	{	1	10,000
	8,000	8,000			1	16,000

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R. S. Ot to 10 persons each year at each centre 2. Stipend to 10 persons for 14 months training @Rs. 30 P.M. each year at each centre 3. Purchase of improved birds from breeders
250 750 1,000 1,000 1,000 1,200 2,500 2,900 2,900 2,900 1,000 1,200 2,500 2,900 2,900 2,900 1,000 1,500 1,500 - - - 2 1,000 1,000 - - - 2 1,000 1,000 - - - 2 25,000 25,000 - - - 82, 25,000 41,000 - - - 82, 33,570 59,190 11,286 11,473 11,477 1,477
250 750 1,000 1,000 1,000 1,200 2,650 2,900 2,900 2,900 2,500 2,500 - - - 1,500 1,500 - - - 1,000 1,000 - - - 1,000 1,000 - - - 25,000 25,000 - - - 25,000 41,000 - - 82 33,570 59,190 11,286 11,478 11,570 1,47 8ay 1,47
2,650 2,900 2,900 2,900 say 2,500
1,500
1,500 1,000 1,000 1,000 1,000
1,000 — — 2 1,000 — — 2 1,000 — — 5 41,000 — — 87 83 11,70 1,4 83 1,4
10,000 — — — — — — — — — — — — — — — — —
1,000 — — — — — — — — — — — — — — — — — —
25,000 — — — — — — — — — — — — — — — — — —
41,000 — — — — — — — — — — — — — — — — — —
59,190 11,286 11,438 11,570 say

	of Fisheries
-U.P./ºP'	Development
APPENDIX-	expenditure on
	Details of

	 ₹	19-09-61	1961-62	62	1962-63	-63	1963-64	Ž	1964-65	-65	Total	al
	Rec.	Rec. Non Rec. for 9 months	Rec.	Ron Sec.	86.	Ron Sc.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	RSC IS	Rec.	Non Rec.	88	Rec.
DEVELOPMENT OF FISHERIES IN KUMAON REGION	KUMAC	N REG	Į (OI									
Breeding & Rearing ponds at Bhimtal & Naukuchiatal (Bhimtal in 1960-61 and Naukuchiatal in 1961 67)						4					•	
Pay of Establishment					187	2						
2 Fisheries Supervisors (Rs. 75—5—120) p.m	h 945	1	1,684		1,800	l	1,920	Ī	2,040	l	8,389	1
Allowances & Honoraria Travelline allowance	6	i	375		430		430	ı	430	1	1,825	i
Dearness allowance	732	}	1.450	ı	1.450	l	1.450	i	1.450	ł	6.532	i
Contingencies												
Labour charges	9	1	1,200	i	1,200	1	1,200	ļ	1,200	١	5,400	1
Fisheries Gear & tackle	2,000	I	4,000	1	4,000	Į	4,000	I	4,000	١	18,000	1
Misc. Contingencies	200	1	1,000	ı	1,000	I	1,000	I	1,000	1	4,500	I
Construction of breeding & rearing ponds	1	17,000	1	17,000	1	l	1	I	1	i	1	34,000
TOTAL	4,937	17,000	9,709	17,000	088'6	1	10,000	1	10,120	1	44,646	34,000
										. 33	78, 78,	78,646 78,650

APPENDIX-U.P./'Q'

Budget estimate for establishment of 10 acres nurseries eachat Bharsar and Dunagiri, in district Pauri-Garhwal and Almora respectively during the year 1960-61

Head of item	s							Estimates for 1960-61
(a) 10 acres Nursery at Bharse	ar Dis	trict Pa	uri-Ga	rhwal				
1. Pay of Establishment								
One Nursery Supervisor (75-5-1 One Store-keeper, (80-5-100-6-1 Ten Malis (32-1-37) One Chaukidar (22 1/2-27 or 27	30)	··· ··· ···	••	••	••	••	••	825 880 3,520 242
9 411				•			•	5,467
2. Allowances & Honoraria Dearness allowance Travelling allowance	••	••	••		.••	••	••	3,987 500
Travoling anomation	••	••	••	••	••	•••	••	4,487
3. Contingencies—Recurring								
Cost of seeds, plants, insecti- fertilizers, casual labour and other	eides, ner mis	fungici cellane	des, gr ous exp	afting enditu	materi: ire	al, man ··	ures,	10,000
							,	10,000
4. Contingencies—Non-recurring Preparation of land for Nursery Tools, implements and spray n Fencing material Water tank and pipe line		es etc.		·· ··			••	10,000 1,000 3,000 5,000
								19,000
5. Works	84	प्रभाव व	144					4 400
Construction of tool godown Chaukidar and Malis hut	••	••	••	••	••	••	••	1,500 5,000
								6,500
	GRAN	D Tot	AL	••	••	••	••	45,454
(b) Nursery at Dunagiri Distri	cı, Aln	nora						
Budget—same as above	••	••	••	••	••	••	••	45,454
	Тота	L (a) a	nd (b)		••	••	••	90,900

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Detailed budget estimates for the Development and Expansion of estate owned Nurseries during the year 1960-61

	Head of items				1960-61
1.	Pay of Establishment				
	4 posts of Nursery Supervisors 75—120		• •	••	3,300
	20 posts of Malies 32—1—37	••	••	• •	7,040
	2 posts of Ploughmen 27—1—32	• •		• •	594
	2 Assistant Accountants 100-8-140-10-170	••		• •	2,200
	1 Senior Clerk 80-5-100-6-130		••	••	880
	7 Clerks 60-3-90-4-110		••		2,640
	5 Chaukidars 22—1—27			••	1,210
	Total	••	•,•		17,864
2.	Allowances and Honoraria			_	
	Dearness allowance	••	• •	••	11,792
	T. A. and other allowances			• •	4,000
		OTAL	• •	•,•	15,792
3.	Contingencies—recurring	7.		-	
٠.	Cost of seeds and plants, manures, fertilizers, ir	secticide	s and c	asual	
	labour etc	•••			25,000
	Misc. contingencies			• •	5,000
	9 A TO A T	Total	••		30,000
4.	Contingencies (Non-recurring)			_	
	Cost of two pairs of bullocks	W	••	•• .	1,500
	Cost of tools and implements	f	••	••	3,000
	Cost of fencing and walling at Pauri & Tehri,			• •	5,000
	Furniture and fittings	• •	••	••	2,000
	Installation of small pumping set with pipe line a	and wate	r tank	at •	8,000
	Cost of one Buster pump, water tank and pipes,	for Bage	shwar	Nur-	
	sery		• •	••	5,000
	7	TOTAL		–	24,000
5.	Works				
	- Construction of				
	Bullock shed	••		••	6,000
	Malies huts				25,000
	Malies huts at Karmi		• •	••	10,000
	Store room at Karmi			• •	2,000
	Water tank and pipe line at Karmi	••	•••	• •	5,000
	7	OTAL	••		48,000
	Grand T	`OTAL			1,35,656 or say 1,36,000

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Budget estimates for establishment of Nursery at Bharsar and Dunagiri during [IIrd Five Year Plan

_	Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
(a)	Establishment of 10 acres Nursery at Bharsar Distt. Pauri Garhwal.						
1.	Pay of Establish- ment						
	One Nursery Supervisor (75—5—120)	960	1,020	1,080	1,140	1,200	5,400
	One Store-keeper (80—5—100—6—130)	1,020	1,080	1,140	1,200	1,272	5,712
	Ten posts of Malies (32—1—37)	3,960	4,080	4,020	4,320	4,440	20,820
	One Chaukidar (22—1—27)	396	408	420	432	444	2,100
	-	6,336	6,588	6,660	7,092	7,356	34,032
_	411						
2.	Allowances Dearness allowance	4,350	4,350	4,350	4,350	4,350	21,750
	Travelling allowance	500	500	500	500	500	2,500
	Travening anowance	4,850	4,850	4,850	4,850	4,850	24,250
3.	Contingencies (Recurring) Cost of seeds, plants, insecticides, fungicides, grafting material, manures, fertilizers, casual labour & other misc. expenditure	10,000	10,000	10,000	10,000	10,000	50,000
		10,000	10,000	10,000	10,000	√10,000	50,000
4.	Works Malies huts	5,000	_	_			5,000
	Store-keepers quar- ter	5,000	-		_		5,000
	Nursery Super- visors quarter	5,000					5,000
	-	15,000					15,000

Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
b) Establishment of 10 acres Nursery at Dunagiri Distt. Almora						
Budget estimates same as above	36,186	21,438	21,510	21,942	22,206	1,23,282
Grand Total under schemes (a) & (b)	72,372	42,876	43,020	43,884	44,412	2,46,564
or say	•72	•43	•43	•44	-44	2.46
Detailed budget es	stimate fo ed Nurser	or the Dev ies during	velopment IIIrd Fiv	and expa e Year Pla	nsion of e	estate
Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
1. Pay of Establish- ment		- Colon			•	
4 posts of Nursery Supervisors. (75—5—120)	3,840	4,800	4,3 20	4,560	4,800	21,600
20 posts of Malies (32—1—37)	7,920	8,160	8,400	8,640	8,880	42,00
Two posts of Ploughmen (27— ½—32)	660	672	684	694	708	3,420
Two Assistant Accountant (100 —8—140—10— 170)	2,592	2,784	2,976	3,168	3,360	14,88
One post of Senior Clerk (80-5-100 6-130)	1,020	1,080	1,140	1,200	1,260	5,70
Four posts of Clerks (60—3—90—4—110)	3,024	3,168	3,312	3,456	3,600	16,50
Five Chaukidars (22—1—27)	1,470	1,500	1,530	1,560	1,590	7,65
TOTAL	20,526	31,444	22,362	23,280	24,198	1,11,81
2. Allowances and Honoraria:				•		
Dearness allow- ances	12,990	1,2990	12,990	12,990	12,990	64,95
Travelling allow-	4,000	4,000	4,000	4,000	4,000	· 20,00

	Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
3.	Contingencies (Recurring)						
	Cost of seeds, plants, manures, fertilizers, insecticides and casual labour etc. Misc. contingencies	25,000 5,000	25,000 5,000	25,000 5,000	25,000 5,000	25,000 5,000	1,25,000 25,000
	TOTAL	30,000	30,000	30,000	30,000	30,000	1,50,000
4.	Non-recurring						
5.	Works						
	Malies huts	20,000		_		-	20,000
	Store godown and office room	15,000	_	-	. .	-	15,000
	TOTAL	35,000	1				35,000
	GRAND TOTAL	1,02,516	68,434	69,352	70,270	71,188	3,81,760
	ог say	1.03	.69	.69	70	.71	3.82

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APPENDIX-U.P./'R'

Detailed budget estimates for the Development and expansion of estate Orchard, Bharsar during 1960-61

Head of items	1960-61
I. Pay of Establishment	
(1) One post of Garden Supervisor (75-5-120)	825
(ii) 8 posts of Malis (27—1—32)	2,376
TOTAL	3,201
II. Allowances and Honoraria	
(i) Cost of dearness allowance	2,420
(ii) Travelling allowance	200
Ťotal	2,620
III. Contingencies (Recurring)	
(i) Cost of insecticides up-keep of implements, daily labour and other miscellaneous item	7,500
TOTAL	7,500
(i) Cleaning of Jungle, preparation of terraces and bunding @ Rs. 1,000/- per acre	20,000 10,000 800 10,000
Total	40,800
V. Works	
(i) Construction of Supervisors quarter	6,000
(ii) Construction of 4 sets of malis quarter @ Rs. 2,000/- each	8,000
(iii) Construction of Store-cum-Tool Godown	5,000
Total	19,000
Grand Total: (I to V)	73,121
or say	.73

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Detailed Budget Estimates for the Development and Expansion of State
Orchard, Bharsar during IIIrd Five Year Plan Period

Head of Items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
1. Pay of Establishment						
One post of Senior Garden Inspector. (200-15-350)	2,200	2,580	2,760	2,940	3,120	13,620
One post of Garden Supervisor (75-5-120)	825	960	1,020	1,080	1,140,	5,02
One post of routine Clerk (60-3-90-4-110)	660	756	792	828	864	3,90
Eight posts of Malies every year (32-1-37)	3,072	6,240	9,440	12,764	16,220	47,736
One post of Office Peon (22-1-27)	264	270	276	282	288	1,380
One post of Chow-kidar (22-1-27)	264	270	276	282	288	1,380
TOTAL	7,945	11,832	15,356	19,004	22,784	76,941
		N. A. P.				
Dearness allowance	4,850	5,080	5,300	5,520	5,740	26,490
Travelling allowance	500	500	500	500	500	2,500
TOTAL	5,350	5,580	5,800	6,020	6,240	28,990
Contg. (Recurring): Cost of manures, fertilizers, insecticides, tools, implements, casual labour & other misc.	12 (00	सन्यम्ब		20.000	20.000	1 17 500
expdt	. 12,500	22,000	25,000	28,000	30,000	1,17,500
	12,500	22,000	25,000	28,000	30,000	1,17,500
4. Contg. (Non-recurring): Cleaning of jungles preparation of terraces & bunding @ Rs. 1,000 per acre	20,000	40,006	40,000	_		1,00,000
Digging of pits, filling with manures and fertilizers @ Rs. 2-8 per pit.	5,000	10,000	10,000	<u>.</u>		25,000
Furnitures	500	10,000	10,000		_	500
_						
TOTAL	25,500	50,000	50,000			1,25,500

Head of items	1961-62	1962-63	1963-64	1964-65	1965-65	Total
5. Works Construction of		-%-				
Quarter for S.H.I.	10,000	_	-		_	10,000
Quarter for Super- visors	6,000			-	_	6,000
Clerks quarters @Rs. 5,000 each	_	10,000		_	_	10,000
Five Malies quarters @Rs. 2,000 each		10,000		_	_	10,000
Two peons quarters @ Rs. 2,000 each	_	4,000		_		4,000
Office building	10,000	_			_	10,000
Tool Godown	5,000	-			_	5,000
Godown with fitt- ings & fixtures	_	Chicu	25,000		_	25,000
TOTAL	31,000	24,000	25,000			80,000
GRAND TOTAL:	82,295	1,13,412	1,21,156	53,024	59,024	4,28,931
or say	∙82	1.13	1.21	∙53	-59	4.28

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APPENDIX-U.P./'S'

Scheme for the distribution of Loans in Hill Districts of Uttar Pradesh for the year 1960-61

Head of	items									Rs. in Lakhs 1960-61
Distribution of lo	ng tern	ı loan (to the	Orchard	ists fo	or the D	evelopi	ment of	•	
Almora	• • =		••	••	,.	••		٠٠.		1.00
Nainital	••	••		•••			• •	••	••	1.00
Pauri-Garhwal	••	••		••			••	• •	••	1.00
Tehri-Garhwal		••	••	••		٠				1.00
Jaunsar Bawar ar	ea in C	hakrat	a	••	••	••	••	••	••	1.00
							Т	OTAL	••	5.00

Scheme for the distribution of loans in the hill districts of Uttar Pradesh during the IIIrd Plan Period

Rs. in lakhs

Head of items	1961-62	,1962-63	1963-64	1964-65	1965-66	Total
Distribution of long term loan to Orchar- dists for the develop- ment of Horticulture in Districts of		िर्देश सन्दर्भव	भूदर्भ । समते	••		
Almora	1.00	1.00	1.00	1.00	1.00	5.00
Nainital	1.00	1.00	1.00	1.00	1.00	5.00
Pauri-Garhwal	1.00	1-00	1.00	1.00	1.00	5.00
Tehri-Garhwal	1.00	1.00	1.00	1.00	1.00	5.00
Jaunsar Bawar area in Chakrata	1.00	1.00	1.00	1.00	1.00	5.00
•	5.00	5.00	5.00	5.00	5.00	25.00

APPENDIX-U.P./T

Detailed budget estimates for Vegetable Production Scheme "Yatra Line" for Pauri-Garhwal, Tehri-Garhwal and Almora Districts for the year 1960-61

Head of items			1	960-61
Pay of Officers				
Pay of Establishment				
3 Nursery Supervisors (75-5-120)	••	••	••	2,820
24 Malies (Skilled) (27-1-32)	••	••	••	7,920
			•	10,740
Allowances & Honoraria				
C.D.A		••		9,000
T.A	• •	••		4,000
(April 6)				13,000
Contingencies (Non-recurring)				
Furniture	••	••	• •	-
Boxes, tins etc.	• •	••	• •	600
(Recurring)				600
1. Rent of 24 centres of Rs. 5/- p.m. for 21 centres an	d Rs. 1	0/- for	3 centres	1,620
2. Cost of vegetable seeds for 48 demonstrator plots	٠.	•		500
3. Fertilizers and Manure and labour		••		1,000
4. Office Contingencies	٠.		• •	500
				3,720
Subsidy on vegetable seeds for cultivators		••		3,000
				3,000
GRAND	TOTAL	••	••	30,800
	or say	••	••	·31 lakh

Detailed Budget estimates for Vegetable Production Scheme on the "Yatra line" for Pauri-Garhwal, Tehri-Garhwal and Almora districts under inaccessible area scheme during the IIIrd Five Year Plan Period.

Head of Items	1961-62	1962-63	1963-64	1964-65	1965-68	Total
Pay of Officers						_
Pay of Establishment						
3 Nursery Super- visors (75-5-120)	2,880	3,060	3,240	3,420	3,600	16,200
24 Malies (Skilled) (27-1/2-32)	7,92,0	8,064	8,208	8,352	8,452	40,996
TOTAL	10,800	11,124	11,448	11,772	12,052	57,196
lllowances and Hono- raria						
C.D.A	8,856	8,856	8,856	8,856	8,856	44,280
T.A	4,000	4,000	4,000	4,000	4,000	20,000
TOTAL	12,856	12,856	12,856	12,856	12,856	64,280
Contingencies (Recur- ring)		Uii	W			
1. Rent of Centres- 24 (Rs. 5 for 21 centres and Rs. 3 for 3 centres	1,620	1,620	1,620	1,620	1,620	8,100
2. Vegetable seed and cloth bags etc	840	840	840	840	840	4,200
3. Manures and fer- tilisers and labour	1,000	1,000	1,000	1,000	1,000	5,000
4. Office contingencies	600	600	600	600	600	3,000
TOTAL	4,060	4,060	4,060	4,060	4,060	20,300
Subsidy on vegetable Seeds for cultivator	3,000	3,000	3,000	3,000	3,000	15,000
TOTAL	3,000	3,000	3,000	3,000	3,000	15,000
GRAND TOTAL	30,716	31,040	31,364	31,688	31,968	1,56,776
or say	•31	•31	•31	•32	•32	1 · 57 lakh

APPENDIX-U.P./'U'

Scheme for marketing of fruits and vegetables in the Hills of Uttar Pradesh for the year 1960-61

Head of items							1960-61
Pay of Officers	-						
One Assistant Registrar (250-850)		••		••	••	••	3,00
			7	TOTAL	••	••	3,00
l. Pay of Establishment			•				
Eight Accountant-cum-Store-keepe	er (100-	170)	• •	••	••	••	9,60
Eight Attendants 32-1-37							3,07
Five Sales Managers 200-15-350	••	••	••	••		••	6,00
Ten Sales Assistants 120-250	••	••				••	7,20
Five Store-keepers 80-130	••	••	••	••		••	2,40
Ten Attendants 32-1-37	• •	••	••	••		• •	1,92
One Stenographer (75-150)	-	no bi		••	••		90
One Orderly, peon 22-1/2-27 or 27	7-1/2-32	E F	2.	• •			38
(4)				TOTAL	••	••	31,49
. Allowance							
·C.D.A	4000	.11	7	••		• •	18,03
'T.A						••	3,00
			4	TOTAL		••	21,03
. Contingencies (Recurring)			9				
Miscellaneous for 5 depots	profit	a 33		••	••	;•	5,00
Rent for 5 sales depot @ Rs. 400				t 👩 50:	:50	••	1,00
Publicity	••	••	••	••	••		3,00
				Total	••	••	9,00
. Contingencies (Non-recurring)					٠		
Construction of 8 sheds @Rs. 8,6	000/- pe	r shed	••		••	••	64,00
Subsidy on cost of Truck @ Rs. 1	17,500 p	er truc	k		••	••	1,40,00
Furniture for sales depot	••	••	••	••	••	••	5,00
			7	TOTAL	••	••	2,09,00
		G	RAND	Total	••	••	2,73,52 or say 2.7 lakhs

Scheme for marketing of fruits and vegetables in the Hills of Uttar
Pradesh for the IIIrd Plan Period

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Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
1. Pay of Officers			•		· · · · · · · · · · · · · · · · · · ·	
One Assistant Registrar 250-850	3,300	3,600	3,900	4,200	4,500	19,500
TOTAL	3,300	3,600	3,900	4,200	4,500	19,500
2. Establishment	· · · · · · · · · · · · · · · · · · ·		·			
Eight Accountant-						
cum-Store-keepers.	10,176	10,752	11,328	11,904	12,480	56,640
Eight Attendants 31-1-37	3,168	3,264	3,360	3,456	3,552	16,800
Five Sales Mana- gers 200-15-350	6,450	6,900	7,350	7,800	8,250	36,750
Ten Sales Assistants 120-250	7,560	7,920	8,280	8,640	9,000	41,400
(Pay of the following staff shall be subsidized @ 50%						-
Five Store-keepers 80-130	2,550	2,700	2,850	3,000	3,150	14,250
Ten Attendants 32-1-37	1,980	2,040	2,100	2,160	2,220	10,500
One Stenographer to Assistant Registrar 75-150	948	996	1,044	1,092	1,140	5,200
One Orderly to Asstt. Registrar		((200))	2/129			
32-1-37	396	408	420	432	444	2,100
TOTAL	38,223	34,980	36,732	38,484	40,236	1,83,640
3. Allowances & Honoraria:						
D.A	18,030	18,030	18,030	18,030	18,030	90,150
T.A	3,000	3,000	3,000	3,000	3,000	15,000
TOTAL	• 21,030	21,030	21,030	21,030	21,030	1,05,150
4. Contingencies (Recurring):						
Misc. for 5 depots	5,000	5,000	5,000	5,000	5,000	25,000
Rent for 4 sales depots @ 400 per depot per month	1,000	1,000	1,000	1,000	1,000	5,000
Publicity	3,000	3,000	3,000	3,000	3,000	15,000
TOTAL	9,000	9,000	9,000	9,000	9,000	45,000
GRAND TOTAL	66,558	68,610	70,662	72,714	74,766	3,53,290
or say	•66	.69	-71	.72	.75	3 · 53

APPENDIX—U.P./'V'

Budget estimates for the pilot centre for the Pine Wool and vegetable fibre for the year 1960-61

Sl. No.	Head of items			Estima	tes for 196	0-61
D1. 140.	Irau oi imiis			No. post		osed
(1)	(2)			(3)	(4)	(5)
1. I—Pay	of Officers					
	velopment Officer (Fibre) 250-850 s. 460)	(with a star	t of	1,	5,060	
	for rounding		••	plus	40	
		Total	••	,	5,100	
II—Pay o	f Establishment :					
1. Hea	ad Mistry (120-300)		••	1	1,320	
2. Ass	tt. Supdt. Production (120-300)			1	1,320	
3. Mis	stry for Carter (85-150)	26/15/25	••	1	935	
4. Mis	stry for Carding (85-150)			1	935	
5. Hea	ad Clerk-cum-Accountant (80-130)		1	880	
6. Sto	re Clerk-cum-Typist (60-110)			1	660	
7. Dri	ver (60-100)	1.54		1 ,	660	
8. Boi	ler Attendant (32-1-37)			1	352	
9. Cle	aner (22-27)			1	242	
10. Ord	lerly and Peon (22-27)	त्रेय नगरे		2	484	
11. Cho	owkidar (22-27)		••	1	242	
12. Swe	eper (22-27)	••		1	242	
	for rounding	••	••]	plus	28	
		TOTAL		13	8,300	
TD 41100	vances and Honoraria					
	ess allowance				4,785	
	ling allowance	••	••	••	3,000	
Honor			••	plus	300 15	
	for rounding	т.		hina	8,100	
		10	DTAL	••	0,100	

	(2)					7	(3)	(4)	(
V—Continge	ncies (Recur	ring)	-			•		,	
1. Purcha	ue of Station	iery	••	••	••			500	
2. Service	e postage sta	mps		••		••		800	
	, replacemen		ırchase	of tools	and pl	ants			
	quipments e		••	••	••	•,•		500	
	enance and F	cepair of	l buildi	ngs	••	••	••	500	
5. House		•	• ••	••		••	••	600	
	ise of raw m						• •	30,000	
	ity, propagar		•	-			••	1,000	
	enance and r	epair of	truck	includir	ig purc	hase of	₽ 	6,000	
9. Misc.	contingencies	s includi	ng hot	and cold	i weath	er chars	zes.	•	
	hase of perio				••	••	••	2,500	
			S	12.5	0			42,400	
			Take.						
V—Continger	ncies (Non-R	ecurring)) 機						
	se of Machi								
	ng Press, Tra hase of truck		and ins	tallation	etc., in	cluding		1,10,000	
2. Purcha	ase of furnitu	ire & fit	ting, ir	on safes	and ty	pewriter	c		
etc.	••					••	••	2,000	
			1		deia			1,12,000	
			6.	प्रमान भ			•		
VI—Civil We	neke								
0	71 KB								
	tion of work	shop, Of	fice an	d store si	heds etc		••	40,000	
		shop, Of	ffice an	d store si	heds etc		••	40,000	
	tion of work	shop, Of		d store s	heds etc	· · ·	••		
	tion of work			d store s	heds etc		·· .	40,000	
Construct	tion of work			d store s	heds etc			40,000	
Abstract I—Pay of	tion of work	AND TOT	ral.		heds etc	•		40,000 2,15,900 5,100	
Abstract I—Pay of	GR. GR. GRETOFFICE	AND TOT	ral.		heds etc			40,000 2,15,900 5,100 8,300	
Abstract I—Pay of II—Pay of	GR Officers of Establishm wances and	AND TOT			heds etc			40,000 2,15,900 5,100 8,300 8,100	
Abstract I—Pay of II—Pay of II—Allo IV—Cont	GR. F Officers of Establishm wances and itingencies (R	AND TOT	ral		heds etc			40,000 2,15,900 5,100 8,300 8,100 42,400	
Abstract I—Pay of II—Pay of III—Allo IV—Conti	GR. F Officers of Establishm wances and itingencies (Reingencies (No	AND TOT	ral		heds etc			40,000 2,15,900 5,100 8,300 8,100 42,400 1,12,000	
Abstract I—Pay of II—Pay of II—Allo IV—Cont	GR. F Officers of Establishm wances and itingencies (Reingencies (No	AND TOT	ral		heds etc			40,000 2,15,900 5,100 8,300 8,100 42,400	

Costing of Pine Needle Fibre, based on the working of a Commercial Unit

(1)		Raw-Mat Mds. of P		30,000 Md	s. of v	vhich w	rill proc	iuœ	10,000
(ii)	0,000	,,		Chemicals					30,000
			••		••	••	••	••	30,000
(iii)		••	" .	Fuel	••	••	••	••	30,000
(iv)		o workers ansport ch		staff including	ng car	ding, B	aling	••	60,000
				•					1,30,000
						i.e.	••	••	Rs. 16.25 per maund
				Profit &	Loss				
(1)	Cost of	productio	n .		٠٠,	:•	••	••	1,30,000
(ii)	Depreci	ation on l	Machi	nes @ 6% (on Rs	. 11,000	00)	• •	6,600
(iii)	Depreci	ation on l	Buildir	ng @ 6% (1	Rs. 40	,000)	• •	• •	2,400
(iv)	Interest	on worki	ng cap	ital @ 4%			••	••	5,200
	,					To	TAL .	••	1,44,200
(y)	Overhea	ids 😥 🤔	% .			<i></i>	• •	••	7,210
				Mi	VI	N .			1,51,410
(vi)	Profit	121%		1	PH	34	••		18,926
				or Rs.	21.25	per ma	und	••	1,70,336
					U.S. Commercial	100			·

ग्रह्मावंत जगर्न

APPENDIX—U.P./'W'

Budget Estimates for Pottery Development Centre in the Hill District of
Uttar Pradesh for the year 1960-61

				Budget	Estima	tes		For 1960-6	51
Sl. No.	Item	Scal pa		No. of posts Srinagar		nount	po	of Amount sts mtal	Total Estimates Nainital
(1)	(2)	((3)	(4)	(5)	(6)	(7)	(8)
II—Pa	ay of Establishment								
1.	Supdt. of Production	٠.,	200-30	00 1		2,220	1	2,220	4,400
2.	Mechanics		85-1	50 1		935	1	935	1,870
3.	Technical Attendant	s	45-	65 1		495	1	495	990
, 4.	Accountant		80-1	30 1		880	1	880	1,760
5.	Clerk-cum-Typist		60-1	10 1		660	1	660	1,320
6.	Orderly Peon		22 1 -	27 1		242	1	242	484
7.	Chowkidar		Do.	1		242	1	242	484
	for rounding	••	10	19.6	plus	46		plus 46	plus 92
	_		(E)	- 7		5,700	7	5,700	11,400
	llowances & Honorar. Dearness allowance	ia 		1.6		2,310		2,310	4,620
2.	Travelling allowance			14.1	W	500		500	1,000
	Honoraria		eF.		11	50		50	100
	for rounding			1/7	plus			plus 40	plus 80
	,		1/E		12.00	2,900		2,900	5,800
IV	Contingencies (Recuri	ing)	- 2	नगमेव ।	117				
	wages and fuel et					10,000		10,000	20,000
2.	Stipend to 5 traine 25 p.m	es @)			1,375		1,375	2,756
	Service postage st					200		200	400
	Purchase of stat	•				200		200	
	Repairs of water che Publicity propag & participation Exhibition	ganda				250		250	500
7.	Misc. contingencies		ì			1,000		1,000	2,00
	Purchase of samples		-			100		100	•
9.	House rent @ 50	p.m.				550		550	1,10
	for rounding	• •			(—)	25		() 25	(—) 50
						13,900		13,900	27,80

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APPENDIX U.P./'W'—contd.

(1) (2)	(3)	(4)	(5)
V—Contingencies (Non-recurring)			
1. Purchase of machinery	6,000	6,000	12,000
2. Installation of water turbine including construction of water channels and reservoir	10,000	_	10,000
3. Purchase of Motor starter and installation etc		2,000	2,000
4. Construction of Kiln & Chimney	10,000	10,000	20,000
Total	26,000	18,000	44,000
VICivil Works			
Construction of Godown, Workshop and Office	25,000	25,000	50,000
Total	25,000	25,000	50,000
Grand Total	73,500	65,500	1,39,000
	Abstract		
PAY OF ESTABLISHMENT	5,700	5,700	11,400
ALLOWANCES & HONORARIA	2,900	2,900	5,800
Contingencies (Recurring)	13,900	13,900	27,800
Contingencies (Non-Recurring)	26,000	18,000	44,000
CIVIL WORKS	25,000	25,000	50,000
	73,500	65,500	1,39,000

APPENDIX U.P./'X'-contd.

Budget Estimates for one Service Centre of Copper Smithy at Kharahi (Almoral) and Pithoragarh (Almora) for the year 1960-61

SI. No.	Item						Scale of Pay	No. of posts		imate for 60-61
(I) ·	(2)						(3)	(4)	(:	5)
			Estima	tes fo	r one uni	it				
I-Pay of	Officers									
1. Sup	erintendent						200-450	1	2	2,200
			TOTAL		• •					2,200
П—Рау о	f Establishment	•								
1. Fitt	er-cum-Mechanic					••	120-300	1	1	1,320
2. Ope	erators						45-65	2		990
3. Wo	rkshop Attendant						27-32	1		297
4. Hea	d Clerk-cum-Accou	ntai	nt				80-130	1		880
5. Typ	oist-cum-Clerk		Sec. Si				60-110	1		660
6. Ord	ierly Peons		Air	63	国态		27-32	2		594
7. Cho	owkidar			C.,	12.5		27-32	1		297
fo	r rounding		15日		222				()	38
			TOTAL					9		5,000
TT 411a.	vances & Honoraria		1/1	W	1					
	arness Allowance		at la	は現	1					
	velling Allowance		ACC		77					3,272
	noraria	• •	Verni			• •			1	000,1 300
		••				• •			-1	28
10	r rounding	••	T	He i	ilid.	••			plus	
			TOTAL			••				1,600
	ingencies (Recurring)									
	tage Stamps	• •			• •					300
2. Pur	chase of Stationery	• •	••	• •	• •	• •				150
	use Rent	• •	• •	••		• •			1	,100
	cellaneous continger			• 5	••	••			4	1,000
5. Rep	pair, Renewal of too	ls a r	nd Plants	••	••	••			oken vision	100
6. Rep	air Renewal of shed	etc.	• ••	••	••	••			oken vision	200
fo	or rounding	••	••	• •	••				(—)	50
			TOTAL							5,800

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APPENDIX U.P./'X'—contd.

(1)	(2)					(3)	(4)	(5)
V—Contingenci	es (Non-Recurring)						
1. Purchase	of Machines		••					20,000
2. Purchase	of Furniture & T	ypewriter	etc.					2,000
3. Fittings a	and installation of	machines	••					1,000
•		TOTAL	••		••			23,000
VI—Civil Work	:3							
Construction	n of Workshop			••				20,000
		TOTAL	••	••	••			20,000
Grand Total	I for one unit	••	••	••	`			60,600
Total estima	tes for two units	AN) (2)				1,21,200
		1	Abstra	ict	,			
1. Pay of O	fficers	N. T.						2,200
2. Pay of Es	stablishment							5,000
3. Allowanc	es & Honoraria	102		Alba.	· •			4,600
4. Continger	ncies (Recurring)	12.		17-8				5,800
5. Continger	ncies (Non-recurri	ng)	1					23,000
6. Civil Wo	rks	. 4	प्रमेन ।	144				20,000
	for o	ne unit						60,600
TOTAL	estimates for two	units	••				•	1,21,200

APPENDIX—U.P./'Y'

Budget Estimates for Wood Work Development Centre in the Hill Districts of Uttar Pradesh for the year 1960-61

SI. No.	Item				\$	Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1)	(2)		-			(3)	(4)	(5)	(6)
I—Pa	y of Officers:								
ì.	Manager	••	••	• •	• •	250-850	1	2,750	
	for rounding			• •				() 50	
				TOTAL				2,700	
II—Pa	ay of Establishment								
1.	Foreman					120-300	1	1,320	
2.	Machine Men	• •				85-150	4	3,740	
3.	Accountant					80-130	1	880	
4.	Clerk-cum-Typist					60-110	1	660	
5.	Orderly Peon			- 1	53	22-1-27	1	242	
6.	Chowkidar		. 50		51	22-1-27	1	242	
	for rounding		-14					plus 16	
				TOTAL				7,100	
Ш/	Allowances & Honor	aria							
1.	Dearness Allowane	ce		7724	V.	4		3,382	
2.	Travelling Allowar	nce		of the		120		1,000	•
3.	Honoraria			45		78		100	
	for rounding			Em V				plus 18	
				TOTAL	ज	id id		4,500	
11/-0	Contingencies (Recu	rring)		TOTAL					
1.	Purchase of Raw n	nateria	ils inc	luding wa	iges			30,000	
2.	Stipend to 15 train	nces @	D 30	per monti	h			4,950	
3.	Repair of water ch	annel	& rese	rvoirs	••			100	Token pro-
4.	Renewal and repai	irs of t	ools a	nd plants	,			100	Do.
5.	Postage & Stamps							300	
6.	Purchase of Station	nery						300	
7.	Publicity propaga	nda 8	k par	ticipation	in				
	Exhibition		• •	• •	• •			1,750	
8.	Misc. contingencie weather charges		ding I	Hot and (Cold			1,000	
9.	House rent		• •		• •			550	
		••	••	T	••				
				TOTAL	• •			38,000	

APPENDIX-U.P./'Y'-contd.

(1)	(2)	(3)	(4)	(5)	(6)
V—Con	ntingencies (Non-recurring)				
	urchase of Bandsaws, Circulars saws, ches, Turning Lathe Heards, Circ Plains, Drills and Workshop equiprand one blacksmith furnace accessories	ular		15,000	
2. V	Vater Turbine including installation construction of water channels reservoirs	and and		15,000	
	TOTAL	••		30,000	
VI <i>—Ci</i>	vil Works				
Con	struction of shed, water Channel reserv	voir		20,000	
				20,000	
	GRAND TOTAL		-	1,02,300	
	Abs	tract			
I	Pay of Officers			2,700	
и	PAY OF ESTABLISHMENT			7,100	
Ш	ALLOWANCES AND HONORARIA	1977		4,500	
IV	Contingencies (recurring)			38,000	
V	CONTINGENCIES (NON-RECURRING)			30,000	
VI	Civil Works	ब.जयने		20,000	
	TOTAL		-	1,02,300	

APPENDIX-U.P./'Z'

Budges Essimate for the Development of Ringel Industry in the District of Pauri Garhwal for the year 1960-61

St. Name of Item No.		Scale of pay	No. of posts	Establish- ment for 1960-61	Remarks
(1) (2)		(3)	(4)	(5)	<u>(</u> 6)
II-Pay of Establishment:			·		****
1. Technical AssttCum-Instructor	••	120-300	1	1,320	
2. Production Clerk	• •	60-110) <u>1</u>	660	
3. Attendant C		22 1/2	27 1	242	
4. Charkidar		Do.	1	242	
for rounding	••			ptas 36	
TOTAL	• •			2,500	
III-Allowances & Honoraria:	•				
1. Dearness allowance	••			1,137	
2. Travelling allowance	••			500	
3. Honoraria				100	
for rounding	331	-0-		(-) 37	
TOTAL		2-3		1,700	
IV-Contingencies (Recurring):					
1. Purchase of Stationery		92		150	
2. Service Postage Stamps		79		200	
3. Misc. Contingencies including Hot & weather charges	Cold			500	
4. Repair & Renewal of Tools & Plants		300		100	Token
5. House Rent	9-11			550	provision
6. Purchase of raw material and wages		Ser.		2,000	
7. Stipend to trainees @ 30/- p.m. fo trainees	r 10	H		3,300	
				6,800	
V—Contingencies (Non-Recurring):					
I—Purchase of tools and appliances	••			2,000	
TOTAL	••			2,000	
GRAND TOTAL				13,000	
Abs	tract				
II—PAY OF ESTABLISHMENT	• •			2,500	
III—ALLOWANCES & HONORARIA	••,			1,700	
IV—Contingencies (Recurring)	••			6,800	
V—Contingencies (Non-Recurring)	••			2,000	
TOTAL	• •			13,000	

APPENDIX—U.P.J'ZA'

Details of Expenditure for the Development of Chelu Oil Industry on Cooperative Lines

					Loan	Grant	Total
1. Purchase of Ghani		•••	•••	••	1,500	1,500	3,000
2. Transport Subsidy for the	Purc	hase of	Ghani	••		500	500
3. Construction of shed		••	••	••	2,500	2,500	5,000
4. Purchase of Bullocks		• •	•.		300	_	300
5. Purchase of minor tools		••	••		500		500
6. Stockings of Seed		• •	••		5,000	,	5,000
Total for one	unit	••			9,800	4,500	14,300
Total for two	Unit	s	••		19,600	9,000	28,600



APPENDIX—U.P./'ZB' Estimates for Date Palm Products centres in Kumaon Hills for the year 1960-61

Sl. No.	Item				Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1)	(2)				(3)	(4)	(5)	(6)
II—Pay	of Establishment:							
1. Pa	alm Gur Demonstrator	rs	••	••	(45-2-65- EB-3-80)	2	990	
2. Pa	alm Gur Guide for rounding	••	••	••	27-1/2-32	2 (594 (+) 16	
	TOTAL	••	••				1,600	
III—Alla	owances & Honoraria					-		
1. D	carness Allowance	••	••				1,210	
2. Tr	ravelling Allowance for rounding	••	••			,	(—) 200 (—) 10	
	TOTAL	20		8	3.	-	1,400	
IV-Con	tingencies (Recurring) :	Call !	150		50	-		
	ent for the office of Pal r @15/- p.m.	m Gur	Demo	nstra			165	•
2. T	ree rent @25 N.P. per	tree					100	
3. Ft	nel				-		200	
4. St	ationery & Postage Sta	mps					70	
5. M	lisc. contingencies i	ncludin	g la	bour	1		750	
-6. Bo	oarding and lodging cha 30/- per month for 2 n	rges of nonths	20 tra	inces	1		1,200	
eto	ctual Railway fare EKK c. charges of 20 cand linee						100	
8. M	dedical aid for 20 trained for rounding	es 	••	••			(—) 25 (—) 10	
							2,600	•
VI-Con	tingencies (Non-Recurr	ing):						
1. To	ools and implements			••			1,500	
2. Ft	urniture and fitting	••	••	••			100	
	TOTAL	••	••			-	1,600	
	Grand	Total	••			•	7,200	
						_		

(1)	(2)	(3)	(4)	(5)	(6)
	At	stract			
I—PAY OF	ESTABLISHMENT	• ••		1,600	
II—Allow	ANCE AND HONORARIA .			1,400	
III—CONTIN	GENCIES (RECURRING) .			2,600	
IV-CONTIN	gencies (Non-Recurring)	••		1,600	
				7,200	



APPENDIX U.P./'ZC'

Budget Estimates for Four Sericultures Demonstration-cum-Training Centres during the year 1960-61

					Estimate 1	es for 960-61	*******
Sl. No.	Item				No. of posts	Amount Proposed	Romarks
(1)	(2)				(3)	(4)	(5)
77 D - CP 4-17		estimates For C	ne Contr	B ,			
II—Pay of Establi 1. Demonstra	sament : tors (60—3—9	0 EB4110)	•	••	1	660	
2. Rearing at	tendant 22-1/2-	27 ox 27 1/2	32		2	539	
3. Chawkidar for re	22—1/2—27 or ounding	271/232	••		1	297 + 4	
	TOTAL	••	••		-	1,500	
III—Allowances a	nd Honoraria				-	······································	
1. Dearness a	llowance	<i>;</i>				1,155	
2. Travelling	allowance		••			500	
3. Honoraria		SHE	22a			190	
for re	ounding					+ 45	
	TOTAL					1,800	
IV—Contingencies	s (Recurring)		60		-		
1. Misc. cont	ingencies includ	ling hot and c	old weat	her			
stationery e	use rent, purcha etc	se of periodical	s, Dooks	and		1,000	
2. Purchase of	f cocoons					2,000	
3. Purchase of	f chemicals and	disinfectants	Les de			500	
4. Repairs an	d renewal of buil	lding नियमित न	44			100	Token pro-
	TOTAL				-	3,600	vision
V-Contingencies	(Non Recursing)				-		
_	equipments and		• •			3,000	
2. Installation	of incubation cl	namber and equ	uipment "	for			
control of t	emperature and	humidity	••	••	_	6,500	
	TOTAL	••	••	••	_	9,500	
VI—Civil Works Construction of	of rearing huts		••		_	18,000	
	TOTAL		••		_	18,000	
	GRAND TO	TAL FOR ONE C	ENTRE	••		34,400	
	BUDGET EST	TIMATES FOR 4 C	ENTRES			1,37,600	
					_		

1)	(2)					(3)	(4)
		A	bstract				
PAY OF ESTABLIS	HMENT		••	••		1	1,500
ALLOWANCES; A	nd Honoraria	••		••	••		1,800
CONTINGENCIES ((Recurring)	••	••		••	;	3,600
Contingencies	(Non-recurring)		• •	••	9	9,500
Civil works			••		••	1	8,000
	TOTAL FOR O	ne cei	NTRE	••	••	3-	4,400
	Estimates fo	R POU	R CENT	RES	••	1,3	7,600
	ESTIMATE (1960-61 a.	FOR nd 196	TW 61-62)	O . Y	EARS	2,7	5,200

Grants of loan and Subsidy to the Cooperative societies of Rearers

	4		ria-				Estimates for one centre	Estimates for 4 centres
I—Loan		h Nym		12:17				
(i) Loan for share capita contributed by the m by Government to b	ember	and Rs	. 18 . 7	5 to be	contril	outed	1,875	7,500
(ii) Loan for working cap in 10 years	pital R	s. 62·5	0 per n	nember	to be	paid 	6,250	25,000
				TOTAL	L		8,125	32,500
II—Subsidy		8-2	धव न	디르				
(i) Fencing	• •				••		2,500	10,000
(ii) Irrigation facilities		- •	••			••	5,000	20,000
				TOTAL	_	••	7,500	30,000
			Gr	AND TO	TAL		15,625	62,500

APPENDIX-U.P./'ZD'

Budget Estimates for one Training-cum-Production Centre and 10 Spinning Centres and One Sale Shop in Jaunsar Bawar Area of Dehra Dun District for the year 1960-61

Si. No. (1)	Particulars (2)		Scale of pay	No. of posts (4)	Estimates for 1960-61 (5)
II-Pay of Establishmen			(0)	(4)	(0)
1. Supdt. of Industrie			200300	. 1	2,200
2. Asstt. Supt. of Ind		· · · · · · · · · · · · · · · · · · ·	120-300	1	1,320
3. Asstt. Supt. of Ind			120-300	1	1,320
4. Asstt. Supt. of Ind		•	120-300	1	1,320
5. Weaving Instructor		•	85—150	2	1,870
6. Dyeing Instructor			85—150	1	935
7. Technical Attendar			4065	1	440
8. Master spirmer	- F	mg)	25—1—35	10	2.750
9. Spinning Superviso		.	40_65	1	440
10. Commercial Travel	100 St. 100 St		60110	1	660
11. Salesmen			60110	1	660
12. Sales attendant			4065	1	440
13. Clerk-cum-typist	14		60—110	1	660
14. Store Keeper	14.1.17		60—110	1	660
15. Peons & Chaukida	1(202)		27—1—32	4	1,188
16. Fitter	सदा	व जयन	60-100	2	1,320
.,		•	for round-	+	17
	TOTAL		.	T-	18,200
	IOIAL	••		_	10,200
III—Allowances Honorari	la ',				
1. Dearness					8,547
2. Travelling allowance	es	••			2,000
3. Honoraria		••			500
4. City & Compensato	ory allowances	••			220
for roundin	8	-		+	33
	TOTAL			_	11,300

(1)	(2)				(3	3)	(4)	(5)
	Contingencies (Recurring) House Rent for (a) One T	CPG	De	100/-	nm	*		5,170
••	11 months (b) One (c) 10 sq	Sale sho	op @	Rs. 1	20/- 1	p.m.		5,110
2.	Misc. contingencies include	_		_		_	rges	
	payment of wages etc.							7,000
3.	Publicity and Propaganda	٠.		• •	••	••	••	2,000
4.	Purchase of Stationery		•	••	••	••	••	500
5.	Post and Telegram charge	×s .	•	• •	••	••	••	500
6.	Loss wastage in training	•	•	••	••	••	••	600
7.	Stipend to 50 weavers @	Rs. 25/	p.m	. for	11 m	onths		13,750
8.	Stipend to 200 spinners of for rounding	Rs. 5/	- for	11 m	onths		:: (11,000 —) 20
			To	TAL		••		40,500
/C	ontingencies (Non Recurrin	(8)	9.0	1				
	Purchase of charkhas		묾	RA	3			3,500
2.	Purchase of looms	900		Sec.	100			7,000
3.	Purchase of Machines		Kan	507				
d	(b) One Wasting Machine (c) One Milling Machine (d) One Raising Machine (e) One Hydro Extracter (f) One Rotary Press (g) One Boiler)_	4,800 3,800 7,000 7,000 7,000 7,600		82,200
4.	Installation and transport	Total	मेव व	127				7,000
	Furniture and fittings etc.	_						2,500
6.	Purchase of type writer a	nd D. N	l achi	ne		•		1,000
		TOTAL						1,03,200
I—C	COMMERCIAL OPERATION						-	1,50,000
	Тот	AL		• •			_	1,50,000
	GRAND	Total	••				_	3,23,200
			Abs	tract			_	
1.	PAY OF ESTABLISHMENT	••						18,200
2.	ALLOWANCES & HONORAL	RIA	••	٠.				11,300
3.	CONTINGENCIES (RECURRI	ING)	••	••				40,500
4.	CONTINGENCIES (Non-Red	CURRING	3)					1,03,200
5.	COMMERCIAL OPERATION	••	••				_	1,50,000
	GRAND	TOTAL					_	3,23,200
							-	

APPENDIX--U.P./'ZE'

Budget Estimates for the Development of Cana & Bamboo Diductry At Kotdwara District Garbard For 1960-61

Sl. No.	Head o	f Items		Scale of pay	No. of	Estimates for 1960-61	Remarks
(1)	(2)			(3)	(4)	(5)	(6)
1. Pay of E							····
Senior In	nstructor		• •	120—8— 200—EB 10—300	- 1	1.320	
Accounta	nt- <i>cum</i> -Store-l	ceeper .	• •	6039 EB-411		660	
Attendan				. 22—1—2		242	
Chawkide for	ar rounding			. D o.	(+)	242 36	
		TOTAL			(,,	2,500	
2. Allowance	. Womanania	-02	•	•			
	Allowance					1,347	
Travelling	Allowance					300	
	rounding	1	MONTH.		()	47	
		TOTAL	12.87	223		1,600	
	cies (Recurring				'		
Post & To	legraph charg	es & Stationer	y	332		200	
	Building @ R	-70071		99		1,100	
Repairs &	k replacement	of tools & pla	nts	M		200	
Stipend to	15 trainces @	Rs. 25/- p.m.	each	1		4,125	
Purchase wages		terial & Pay	ment o			1,000	
sample	ntingencies in es, book and p rounding	cluding purel eriodicals	ase o	र्मा गर्म	()	600 25	
		TOTAL	olel el	411	0	7,200	
-4. Contingen					•		
	of machines, quipments	tools and pla	nts and	l. •		6,000	
		TOTAL			,	6,000	
		GRAND 7	TOTAL .	. •		17,300	
		A	bstract				
1. PAY OF E	STABLISHMENT	•••		•		2,500	
2. ALLOWANG	ES & HONORA	RľA .		•		1,600	
3. CONTINGE	vcies (Recure	ung) .		•		7,200	
4. Contingen	icies (Non Ri	CURNING)	• •			6,000	
					•	17,300	

APPENDIX-U.P./'ZF'

Budget Estimates for the Development of Shawls, Galichas, Asnies and Druggest at Pauri Garhwal for 1960-61

Sl. No. Head of	items		Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1) (2)			(3)	(4)	(5)	(6)
1. Pay of Officers						
Manager	••	3	0—10— 10-EB-14	1	2,200	
	TOTAL		4 50	•	2,200	
2. Pay of Establishment				•		
Craft Supdt			00—15— 50	1	2,200	
Craftsman (Weaving)			0—8—200 B-10—300		1,320	
Craftsman (Galicha & As	nies)		Do.	1	1,320	
Craftsman (Druggest)		ensis.	Do.	1	1,320	
Craftsman (Dying)		3	Do.	1	1,320	
Commercial Traveller			Do.	1	1,320	
Accttcum-Head Clerk			0—8— -EB-10—	170 ¹	1,100	
Peons & Attendants	0.000	2	7—1—32	5	1,485	
Chaukidar for rounding	. 1917		Do.	1 (+)	297 18	
	TOTAL	FINE S		,	11,700	
3. Allowances & Honoraria			9			
Dearness Allowance					4,840	
City Allowance	863.64	4.77			132	
Travelling Allownace for rounding		::		(+)	2,000 28	
	TOTAL				7,000	
4. Contingencies (Recurring)	•					•
Stipend to 300 trainees @	Rr. 25/- p.m. eac	ch			8,250	
Purchase & Preparation of		•••			2,000	
House rent @ Rs. 100/-		••			1,100	
irchase of raw material		••			8,000	
	-				500	
Samps & Postage and Si	ationery etc.				450	
Misc. contingencies	• • • • • • • • • • • • • • • • • • • •				500	
2					20,800	-

(1)	(2)	(3)	(4) (5)	(6)
5. Contingenc	ies (Non-Recurring)			
Tools & e	quipment		2,000	
Furniture	& Show cases		3,000	
Typewrite	r		1,400	
	TOTAL	••	6,400	
	Grand Total .	• ••	48,100	
		Abstract		
1. Pay of	Officers		2,200	
2. Pay of	ESTABLISHMENT		11,700	
3. ALLOW	ances & Honoraria .	• ••	7,000	
4. CONTIN	igencies (Recurring) .	in the second	20,800	
5. CONTIN	GENCIES (NON-RECURRING).		6,400	
			48,100	

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APPENDIX-U.P./'ZG'

Budget Estimates for the Pilot Project Scheme in Uttar Kashi District Tehri Garhwal 1960-61.

Sl. No.	Head	of Ite	m			Scalè of pay	No. of post	Estimates for 1960-61	Remarks
(1)		(2)				(3)	(4)	, (<u>5</u>)	(6)
I—Pay of Off	icers								
Commun	ity Project	Officer	••	•	••	5001200	1	5,500	
			TOTAL		••			5,500	
II—Pay of Es (a) Contro	tiblishment Uing Staff								
Stenog	rapher			•		75—150	1	825	
Head (Clerk					100—170	1	1,100	
Senior	Clerk					80—130	1	880	
Routin	e Clerk		£3	191		60—110	1	660	
Typist			128	12		Do.	. 1	660	
Store 1	ceeper		[3]			60—100	1	660	
Orderl	y Peon	••	188			22-27	1	242	
Office !	Peon		9	H		Do.	2	484	
Store A	Attendant	٠	64			Do.	.1	242	
Sweep	er		13.1	100		Do.	1	242	
Mali				11222	1.	Do.	1	242	
Daftri			0.0	प्रमेव	41	32-37	1	352	
	for roun	ding					(+)	. 11	
			TOTAL (a)		•	13	6,600	
(b) For M	ultipurpose	Unit	•			•			
Me cha	nicăl Opera	ator Inc	harge Uni	t		200—300	1	2,200	
Lathe	& Drill Ins	structor	••			120300	1	1,320	
Black	Smithy- <i>Cu</i>	m-Weld	ing Inchar	ge		120300	1	1,320	
Attend	lant		••		•••	22—1—27	1	242	
Attend	lant-cum-C	haukida	ar Special I	Pay 5/	-	Do.	1	297	
	for	roundi	ng				(+)	21	
			TOTAL (5				5,400	

	(2)		(3)	(4)	(5)	þ
(c) Trainning-Cum-Production	on Centre				*	
Supt. Production .			200300	2	4,400	
Instructor			120-300	7 %	9,240	
Crafteman	· · · · · · · · · · · · · · · · · · ·		\$5 —150	7	6,545	
Accountant-cum-Cler	k		80—130		1,760	
Peons		•••	22—27		484	
	limour of Do. 61	• • •	· .	~		
Attendant with specia		••	Do.	7	2,079	
for roundi	ng	••		(-)	<u> 8</u>	
	TOTAL	••		27	24,500	
	TOTAL :	(a) (b) ((c)		36,500	
II—Allowances & Honorari	la .					
Dearness Allowance		050.**			14,531	
Travelling Allowance	- Mig	201-	1		6,000	
Bonus	6.63	14			1,000	
Honoraria					200	
for roun	nding		2	()	31	
	TOTAL				21,700	
IV—CONTINGENÉIES	V (%.1)	VIII		_		
(a) For Head Quarters	RECURRING	建丛土	2			
•		17	D ₁			
Misc Contingency i	including nagts	age,				
stationery Telegram &	k advertisement	etc.	Later Control of the		5.000	
stationery Telegram &	k advertisement			_	5,000	
stationery Telegram &	k advertisement of			_	5,000	
stationery Telegram & (b) For Multipurpose Uni	Total IV (_	5,000	
stationery Telegram & (b) For Multipurpose Un. Postage & Stationery	Total IV (-	5,000	
stationery Telegram & (b) For Multipurpose Un. Postage & Stationery Raw Material and Wi	TOTAL IV (it ages			-	5,000 200 3,000	
stationery Telegram & (b) For Multipurpose Un. Postage & Stationery	TOTAL IV (it ages			-	200 3,000 40 0	
stationery Telegram & (b) For Multipurpose Un. Postage & Stationery Raw Material and Wi	TOTAL IV (it ages			-	5,000 200 3,000	
stationery Telegram & (b) For Multipurpose Un. Postage & Stationery Raw Material and Wi	TOTAL IV (it ages TOTAL (b)			-	200 3,000 40 0	
(b) For Multipurpose Un. Postage & Stationery Raw Material and W. Misc. contingencies	TOTAL IV (it ages TOTAL (b) oduction Centres			-	200 3,000 40 0	
(b) For Multipurpose Un. Postage & Stationery Raw Material and W. Misc. contingencies c) For Training-Cum-Pr. Postage & Stationery Rent of Building	TOTAL IV (it ages TOTAL (b) oduction Centres 40/- per unit			-	5,000 200 3,000 40 0 3,600	
(b) For Multipurpose Un- Postage & Stationery Raw Material and Wi- Misc. contingencies c) For Training-Cum-Pring Postage & Stationery	TOTAL IV (it ages TOTAL (b) oduction Centres 40/- per unit	a)		-	5,000 200 3,000 40 0 3,600	
(b) For Multipurpose Un. Postage & Stationery Raw Material and W. Misc. contingencies c) For Training-Cum-Propostage & Stationery Rent of Building @ Stipend to 168 trainer Raw material & Wag	TOTAL IV (it ages TOTAL (b) oduction Centres 40/- per unit es @ 25/- p.m.	a)		-	3,000 3,000 400 3,600 400 3,080	
(b) For Multipurpose Un. Postage & Stationery Raw Material and W. Misc. contingencies c) For Training-Cum-Pro Postage & Stationery Rent of Building @ Stipend to 168 trainer Raw material & Wag Prize & Competition	TOTAL IV (it ages TOTAL (b) oduction Centres 40/- per unit es @ 25/- p.m.	a)		_	3,000 3,000 400 3,600 400 3,080 46,200	
(b) For Multipurpose Un- Postage & Stationery Raw Material and Wi- Misc. contingencies c) For Training-Cum-Pr Postage & Stationery Rent of Building @ Stipend to 168 trainer Raw material & Wag Prize & Competition	TOTAL IV (it ages TOTAL (b) oduction Centres 40/- per unit es @ 25/- p.m.	a)		_	3,600 3,000 400 3,600 400 3,080 46,200 10,500	
(b) For Multipurpose Un. Postage & Stationery Raw Material and W. Misc. contingencies c) For Training-Cum-Pro Postage & Stationery Rent of Building @ Stipend to 168 trainer Raw material & Wag Prize & Competition	TOTAL IV (it ages Total (b) oduction Centres 40/- per unit es @ 25/- p.m.	a)			3,600 3,600 400 3,600 400 3,080 46,200 10,500 700	
(b) For Multipurpose Un- Postage & Stationery Raw Material and Wandisc. contingencies (c) For Training-Cum-Prostage & Stationery Rent of Building @ Stipend to 168 trainer Raw material & Wag Prize & Competition Misc. contingencies	TOTAL IV (it ages Total (b) oduction Centres 40/- per unit es @ 25/- p.m.	a)		(+)_	3,600 400 3,600 400 3,600 400 3,080 46,200 10,500 700 1,500	

(1)	(2)	(3)	(4)	(5)	(6)
IV—Conting	gencies Non-Recurring He	ead Quarters			
Cost o	of Furniture, Typewriter,	cycle, fans etc.		5,000	
(b) For M	fultipurpose Unit				
	ase of Machiney too fans etc	ols, furniture,		32,000	
(c) For To	raining-Cum-Production (Centre			
Purcha cycle,	ase of machinery, tools, fans etc.	equipment,	·	35,000	
	Тоти	AL IVB. $(a)(b)(c)$		72,000	
N-Comme	rcial Operation				
Į. Mu	iltīpurpose Unit	•• ••		8,000	
2. Fo	r Training- <i>cum</i> -Productio	n Centre		5,000	
	Тот	AL TOOL		13,000	
VI-Grants	-in-Aid				
(c) Tr	aining-cum-Production C	Centre		5,000	
	Тот	AL		5,000	
VII—D. W. Purchase of	orks I land and construction of	building			
A. Fo	or staff Quarters			50,000	
B. Fo	r Multipurpose Unit	Charles of the factor		36,000	
	Тот	Aसन्य मेव जुसने	_	86,000	
	GRAND TO	TAL		3,10,700	
		Abstract			
PAY	of Officers	••		5,500	
PAYC	of Establishment	••		36,500	
ALLO	wances & honoraria	••		21,700	
CONT	ingencies recurring	••		71,000	
CONT	ingencies Non-recurrin	iG		72,000	
Соми	ærcial Operation	••		13,000	
GRAN	TSIN AID	• • • • •		5,000	
Civii	. Works	••		86,000	

APPENDIX-U.P./'ZH'

Budget Estimates for Establishment of Ericulture Centres in the Hill Districts for 1960-61

Sl. No (1)). Item (2)			Scale of pay	No per		1960-61 (Rs.) (5)	Remarks
(1)	(2)						(3)	(6)
7 Pa	of Establishment	Estimates P	or O	ne Unit				
1.	y of Establishment nspector		••	120—8—2 EB-10—30		1	1,320	
2.	Demonstrator-cum-Ro	oling Supervisor	•	60—3-90-1 4—110	E B-	1	660	
3.	Clerk	•••••	••	60-3-9 EB-4-110	-	1	660	
4.	Chaukidar			22-1-2	7	1	242	
5.	Peon		• •	Do.		1 ()	242 24	
		TOTAL				` -	3,100	•
II <i>All</i>	owances & Honoraria					_		•
	Dearness allowance						1,705	
	Travelling allowance	and the	0.5%				500	
2.	for rounding	milia	01	0		(-)		
		TOTAL				_	2,200	
III-C	ontingencies (Recurring)						
1.	Service postage & Stat	ionery					450	
2.	House rent @ 50/- p.	.m		N.			550	
	Misc. contingencies.	1.741.2	Y.W.	Y.			1,000	
•	Purchase of material a	and payment of	vage	720			500 500	
3.	Purchase of eggs etc.	P3-1-1	3-11			_		
		TOTAL	4.1				3,000	
	ontingencies (Non-Recu Purchase of improve	PART A PART	khas	H			1,000	
	*						1,000	
	Farm, equipments (Tr Purchase of furniture a						1,000	
3.	Purchase of furniture a					_	 	
		TOTAL				-	3,000	
		A	betr	ict				
	PAY OF ESTABLISHMEN		• •	•			3,100	
	ALLOWANCES AND HO		••				2,200	
	CONTINGENCIES (RECU		••				3,000	
4.	CONTINGENCIES (NON-	Recurring)	• •			_	3,000	•
	7	Total for one cer	itre				11,300	
	To	otal for four Cen	tres				45;200	•

¹L/M2F&A(60)-350-(Sec. I)-9-12-60-GIPF.

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The Part II Reports of the Inaccessible Area Committee on the Chini and Pangi Areas of Himachal Pradesh and Kulu Valley of Punjab have not been printed due to security reasons.



ACKNOWLEDGEMENTS

The Committee is extremely grateful to the concerned State Govts. and Administrations for their fullest cooperation in furnishing replies to questionnaire and making available supplementary information and detailed data, especially keeping in view the fact that requisite information in respect of inaccessible areas was not readily available and special efforts had to be mobilised to obtain it. Their endeavour and eagerness to be of real assistance to the Committee, in arranging programmes of discussions and visits to various places in their respective areas was commendable. We are further grateful to various institutions, organisations and individuals who tendered evidence and valuable advice during the visits of the Committee.

The Committee would like to place on record their unanimous appreciation of the meritorious services rendered by Shri D. Ramiah, Member-Secretary. Although heavily engrossed in his otherwise heavy assignment as Deputy Secretary in the Department of Agriculture, he spared no pains in rendering valuable assistance to the Committee in its deliberations and drafting of the Report. But for his keen and zealous interest, it would not have been possible for the Committee to present this detailed study of the Inaccessible Areas.

We are grateful to Shri T. R. Anand, Private Secretary to Chairman, for making excellent touring arrangements throughout the term of the Committee. Our special thanks are due to him-and Shri B. D. Sharma for their untiring efforts and singular devotion to duty in helping the Committee in the collection, analysis and compilation of alcessary data, and drafting the Committee's Report. We also thank the other members of the staff who assisted in typing, comparison and other miscellaneous work.

RAJA SURENDRA SINGH
Chairman,
Inaccessible Areas Committee

REPORT OF THE INACCESSIBLE AREAS COMMITTEE

APPOINTED BY THE MINISTRY OF FOOD AND AGRICULTURE (DEPARTMENT OF AGRICULTURE) GOVERNMENT OF INDIA

PART I-GENERAL



Chairman

Raja Surendra Singh of Nalagarh, Agricultural Production Adviser, Ministry of Food & Agriculture.

Members

Dr. B. N. Uppal, Agricultural Commissioner, I.C.A.R., Ministry of Food & Agriculture.

Shri J. V. A. Nehemiah, Extension Commissioner, Ministry of Food & Agriculture.

Shri K. R. Prabhu, Deputy Secretary, Ministry of Home Affairs.

Dr. T. S. Gill, Assistant Chief (Agriculture), Planning Commission.

Shri S. Majid, Director of Agriculture, Assam State.

Shri S. P. Mohite, Director of Agriculture, Bombay State.

Dr. L. S. Negi, Director of Agriculture, Himachal Pradesh.

Shri S. C. Ray,
Director of Agriculture & Community Development,
NEFA, Shillong (Till April, 1959).
Then Shri R. S. Nag, Development Commissioner,
NEFA, Shillong.

Dr. Arjan Singh, Director of Agriculture, Punjab State.

Shri H. D. Naithani, Director of Agriculture, Tripura.

Dr. B. K. Mukherjee, Director of Agriculture, Uttar Pradesh State.

Shri D. Ramiah (Member-Secretary)
Deputy Secretary, Ministry of Food & Agriculture,
(Department of Agriculture).

Coopted Members

Rani Manjula Devi, M.P., (Goalpara) ——Assam.
Shri Premji Assar, M.P., (Ratnagiri) ——Bombay.
Shri Padam Dev, M.P. (Pangi) ——Himachal Pradesh.
Shri Chowkhamain Gohain, M.P. (NEFA) ——N.E.F.A.
Shri Hem Raj, M.P. (Kangra) ——Punjab.
Shri Dasaratha Deb, M.P. (Tripura) ——Tripura.
Shri Mahavir Tyagi, M.P. (Dehra Dun) ——Uttar Pradesh.